

TARGET ACQUIRED; LAWS NOT LOCKED:  
HOW THE UNITED STATES CAN PROGRAM THE FUTURE OF  
INTERNATIONAL DRONE LAW

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INTRODUCTION

Senior military intelligence officials have been notified of the location of a high-ranking terrorist leader, one responsible for orchestrating deadly attacks across the world.<sup>1</sup> But there is a catch. He is hiding in plain sight, fully immersed in a densely populated city within a country where the United States (U.S.) has no military presence, is not engaged in armed conflict, and has no easy way to get to the target.<sup>2</sup> Intelligence analysts, using drone surveillance images and feeds, have incessantly monitored his location and movements. He has mastered the art of disguise, seemingly vanishing into crowds and making it nearly impossible to distinguish him from civilians. The hunt has taken months. However, with the help of a Predator drone, his hideout has been identified.

In this scenario, mission planners modify an existing quadcopter drone with interchangeable attachments, allowing operators to adapt to real-time intelligence.<sup>3</sup> A quadcopter is a drone with four rotors.<sup>4</sup> Small and nimble, this hypothetical, cutting-edge drone can be equipped with interchangeable weapons systems, such as a 9mm pistol, a shotgun, and even explosives. This new, never-before-tested drone at the military's disposal can adapt to covert operations based on real-time intelligence. Senior military officials are confident this new technology will eliminate the terrorist with minimal

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<sup>1</sup> The example of senior military intelligence officials and the special operations team is strictly a hypothetical example written to help develop and explain concepts in this Note.

<sup>2</sup> For the purposes of this hypothetical, the U.S. has notified and received consent from the host nation to carry out this mission.

<sup>3</sup> Generally, there is an extensive review and testing process for weapons, but for the purposes of this Note, we will assume that there was special authorization due to the severity of the threat.

<sup>4</sup> *Quadcopter Drones: A Comprehensive Beginner's Guide*, T-DRONES: BLOG: MULTIROTOR DRONES (Apr. 23, 2024), <https://www.t-drones.com/blog/quadcopter-drones.html> [https://perma.cc/253U-X8RF].

collateral damage. A special operations team is on standby to deploy when notified. Their mission: to gather on-the-ground intelligence, infiltrate, and neutralize the target with the modified quadcopter. However, this course of action (COA) will require split-second decisions and has the potential of creating civilian and American military casualties.

Mission planners know there are several ways this mission could unravel and are considering the four most likely courses of action. It will come down to what the special operations team discovers on the ground.

COA 1: The special operations team discovers the hideout is entirely booby-trapped, making a direct approach nearly impossible.

COA 2: The special operations team discovers there are a handful of security guards, but complicating matters further, the hideout houses women and children, forcing the team to consider collateral damage.

COA 3: The special operations team finds the target is the sole occupant in the home.

COA 4: The special operations team determines the target is surrounded by security, but in an unforeseen development, the target and a few guards wish to surrender.

Before the special operations team can deploy, the mission must receive a comprehensive and critical legal review from the unit's legal department. A packet containing a request for legal review of this mission has ended up on a judge advocate's desk.<sup>5</sup> The judge advocate must analyze the legality of using this untested drone, weighing international law, rules of engagement (ROEs), and collateral damage of each COA. The clock is ticking before the target orchestrates another attack or disappears.

This Note proposes that law and policy changes surrounding drone warfare should be a priority for the U.S. military. Part I discusses the rise of drone warfare and its technology since World War I (WWI). Part II outlines the laws and policies used by the U.S. military and foreign nations. Part III analyzes said policies and laws in conjunction with the hypothetical scenario above. Part IV proposes new ROEs specifically for drone usage, including the creation of a protected class of autonomous surrendering drones, and concludes that the U.S. should be the leader of these policy and law changes.

## I. BACKGROUND

Drones, or unmanned aerial vehicles (UAVs), are remotely piloted aircraft that are part of a more extensive, coordinated system called unmanned

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<sup>5</sup> See *Protect Our Nation in Army Law*, U.S. ARMY, <https://www.goarmy.com/careers-and-jobs/specialty-careers/law> [<https://perma.cc/Y3QJ-NLVP>] (last visited Feb. 11, 2025) (describing Judge Advocates as advisors to Army Commanders on international laws regarding military missions).

aircraft systems (UAS).<sup>67</sup> Drones are classified based on size, from very small to larger-scale models, which provide a range of capabilities.<sup>8</sup> Small models include the U.S. military's Shadow, while larger models include the Predator and Global Hawk. This section lays the foundation for how these systems have developed over the past century, including their current operational use.

#### A. History of Drones in Warfare

Since WWI, nations have conducted extensive research, development, and employment of drones on battlefields.<sup>9</sup> Allied Forces (Allies) developed UAVs during WWI, but their technology was not advanced enough for extensive battlefield use in either World War.<sup>10</sup> During World War II (WWII), Germany used unmanned ground vehicles (UGVs) that were programmed to explode under enemy tanks.<sup>11</sup> The Allies knew the future of warfare would likely expand to include unmanned fighting vehicles, and their development and testing of UAVs continued.<sup>12</sup>

The Dennykite,<sup>13</sup> produced in the 1930s by Reginald Denny, a British pilot in WWI turned Hollywood actor, first saw action as a target drone for military gunners.<sup>14</sup> Initially, the U.S. Army purchased 50 Dennykite planes for target practice.<sup>15</sup> Eventually, the Army bought over 15,000, making the Dennykite the first mass-produced UAV in history.<sup>16</sup>

In the 1960s–1970s, a small drone called the Ryan Firebee was created to replace manned vehicles used in “low-risk attacks.”<sup>17</sup> The Firebees were first used for pilot target practice, but soon after, they were used to survey Vietnam.<sup>18</sup> The Vietnam War (1955–1975) was the first large-scale conflict that saw heavy drone development and use for reconnaissance.<sup>19</sup> Unlike

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<sup>6</sup> *A Brief History of Drones*, IMPERIAL WAR MUSEUMS, <https://www.iwm.org.uk/history/a-brief-history-of-drones> [<https://perma.cc/8NQ2-35DS>] (last visited Feb. 4, 2025).

<sup>7</sup> *What is an Unmanned Aircraft System (UAS)?*, FED. AVIATION ADMIN., <https://www.faa.gov/faq/what-unmanned-aircraft-system-uas> [<https://perma.cc/TGK9-NJ3U>] (last visited Feb. 5, 2025).

<sup>8</sup> Qassim A. Abdullah, *Classification of the Unmanned Aerial Systems*, PENNSTATE COLL. OF EARTH & MIN. SCIS., <https://www.e-education.psu.edu/geog892/node/5> [<https://perma.cc/RXY5-M548>] (last visited Feb. 11, 2025).

<sup>9</sup> *A Brief History of Drones*, *supra* note 6.

<sup>10</sup> *Id.*

<sup>11</sup> JAMES IGOE WALSH & MARCUS SCHULZKE, DRONES AND SUPPORT FOR THE USE OF FORCE 10 (2018).

<sup>12</sup> *Id.*

<sup>13</sup> In 1945, Marilyn Monroe got her start by modeling with the Dennykite drone.

<sup>14</sup> P. W. SINGER, WIRED FOR WAR: THE ROBOTICS REVOLUTION AND CONFLICT IN THE 21ST CENTURY 49 (2009).

<sup>15</sup> *Id.*

<sup>16</sup> *Id.*

<sup>17</sup> WALSH & SCHULZKE, *supra* note 12, at 11.

<sup>18</sup> *Id.*

<sup>19</sup> *A Brief History of Drones*, *supra* note 6.

modern drones, Firebees required ground operators to assist with takeoff.<sup>20</sup> However, the Firebees proved helpful because interference technology was programmed into the drone to combat enemy forces when shot.<sup>21</sup> While helpful to aviators in dangerous combat situations, the Firebees eventually fell to the wayside due to a lack of advanced technology that failed to give the U.S. a noticeable advantage.<sup>22</sup>

The U.S. developed Predator drones in the 1990s.<sup>23</sup> Predator drones can spend up to 24 hours in the air and reach an elevation of 26,000 feet.<sup>24</sup> Originally, Predator drones were primarily used in reconnaissance missions and only provided the location of targets to the remote command center.<sup>25</sup> In 2000, the Central Intelligence Agency (CIA) heavily utilized Predator drones to surveil Osama Bin Laden.<sup>26</sup> Since CIA operatives were not on the ground with the Predator drone, there was concern regarding the delay in communication to the command team as to the location of Bin Laden and how long it would take for the missile strike.<sup>27</sup> While the Predator gave a precise location of the target, the significant time lag between the target location and the projected missile strike resulted in Bin Laden's escape.<sup>28</sup>

Ultimately, the CIA did not engage in the drone strike, citing the high risk of civilian collateral damage due to this time lapse between identifying targets and arming an aircraft for the strike.<sup>29</sup> At that point, the CIA sought to mount Hellfire missiles on the Predator drone.<sup>30</sup> The result would be an effective Predator drone mission that could both identify and neutralize a target without a significant time gap.<sup>31</sup>

October 7, 2001, was the first time a Predator drone was used for targeted killing.<sup>32</sup> The objective was to lure Mullah Omar, the then-leader of the Taliban, out of hiding by targeting his bodyguards.<sup>33</sup> However, Omar was able to escape after the first strike killed his bodyguards.<sup>34</sup> While the mission was unsuccessful, American CIA operatives and U.S. Air Force Airmen's

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<sup>20</sup> WALSH & SCHULZKE, *supra* note 12, at 11.

<sup>21</sup> *Id.*

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> SINGER, *supra* note 14, at 32.

<sup>25</sup> *Id.* at 33.

<sup>26</sup> WALSH & SCHULZKE, *supra* note 12, at 12.

<sup>27</sup> *Id.*

<sup>28</sup> *Id.*

<sup>29</sup> *Id.*

<sup>30</sup> *Id.*

<sup>31</sup> WALSH & SCHULZKE, *supra* note 12, at 12.

<sup>32</sup> *Id.*

<sup>33</sup> *Id.*

<sup>34</sup> *Id.*

lives were not put in danger because the Predator drone was operated from a parking lot in Fairfax, Virginia.<sup>35</sup>

General (Retired) Tommy Franks stated, “[t]he Predator is my most capable sensor in hunting down and killing Al Qaeda and Taliban leadership and is proving critical to our fight.”<sup>36</sup> Not only were Predator drones used for surveillance, but they also provided an overwatch function during missions.<sup>37</sup> While Soldiers were conducting building operations, Predator drones would watch other entrances and report back to the Soldiers to notify them of enemy combatants.<sup>38</sup> Predator drones did so by pointing lasers that were easily seen with night vision goggles.<sup>39</sup> That way, Soldiers could instantly verify enemy combatants in their area.<sup>40</sup> In their first year of use, Predator drones targeted 525 individuals,<sup>41</sup> and an estimated 115 targets were eliminated.<sup>42</sup>

In addition to the Predator drone, the Global Hawk UAV was used in Iraq and Afghanistan.<sup>43</sup> The Global Hawk could stay in the air for 35 hours—far longer than the smaller Predators. Like the Predator drone, the Global Hawk feeds information back to humans but is not piloted remotely.<sup>44</sup> Instead, the Global Hawk relies on Global Positioning Systems (GPS).<sup>45</sup> Today, the Global Hawk has racked up over 320,000 flight hours supporting the military.<sup>46</sup>

In the late 1990s and early 2000s, the U.S. military purchased the Shadow<sup>47</sup> and Raven reconnaissance drones.<sup>48</sup> Like the Firebees, the Raven and Shadow drones cannot launch alone.<sup>49</sup> While proving themselves useful

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<sup>35</sup> *Id.*

<sup>36</sup> SINGER, *supra* note 14, at 34.

<sup>37</sup> Robert Valdes & Desiree Bowie, *The Predator Drone: A Pioneering Force in Modern Warfare*, HOWSTUFFWORKS (Sep. 20, 2023), <https://science.howstuffworks.com/predator.htm> [<https://perma.cc/B373-GYAL>].

<sup>38</sup> SINGER, *supra* note 14, at 34.

<sup>39</sup> *Id.*

<sup>40</sup> *Id.*

<sup>41</sup> *Id.*

<sup>42</sup> *Id.* at 35.

<sup>43</sup> *Id.*

<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> *Global Hawk*, NORTHROP GRUMMAN: WHAT WE DO: AIRCRAFT: GLOBAL HAWK, <https://www.northropgrumman.com/what-we-do/air/global-hawk> [<https://perma.cc/3EKW-ZVFN>] (last visited Nov. 8, 2024).

<sup>47</sup> *Breaking Barriers: The Evolution & Impact of Shadow TUAS*, TEXTRON SYS. (Apr. 18, 2024) <https://www.textronsystems.com/our-company/news-events/articles/inside-ts/breaking-barriers-evolution-impact-shadow-tuas> [<https://perma.cc/HS73-SEUZ>].

<sup>48</sup> *RQ-11B Raven*, AIR FORCE, <https://www.af.mil/About-Us/Fact-Sheets/Display/Article/104533/rq-11b-raven/> [<https://perma.cc/5EWT-KQZF>] (last visited Feb. 5, 2025).

<sup>49</sup> *Id.*

with the amount of intelligence they once gathered,<sup>50</sup> their technology has quickly fallen behind.<sup>51</sup>

By 2008, the U.S. military had over 5,000 drones, indicating rapid technological advancement.<sup>52</sup> Now, the U.S. military has over 11,000 UASs used for training and mission purposes.<sup>53</sup> As U.S. drone use rapidly expanded, the military revised certain ROEs in 2008 to permit attacks on groups of armed men exhibiting militant “signatures.”<sup>54</sup> These “signatures” are what is called a personality strike.<sup>55</sup> After the adjustment to the ROEs, drone usage increased from two personality strikes in 2006 to 119 in 2010.<sup>56</sup> Between 2001 and 2014, the U.S. engaged in over 1,000 drone strikes in Afghanistan.<sup>57</sup>

### B. Current Drone Use

The military strategically uses drones for reconnaissance, surveillance, training exercises, and warfighting.<sup>58</sup> In addition to military uses, drones can be used for personal enjoyment, search and rescue missions, photography, law enforcement, and storm tracking.<sup>59</sup>

#### 1. Drones used for military purposes

On October 7, 2023, Hamas, a terrorist organization, attacked Israel, killing over 1,200 people.<sup>60</sup> Hamas’s invasion involved a key player: drones.<sup>61</sup> The drones used were smaller, destroying Israel’s communication

<sup>50</sup> See generally Cheryl Marino, *Send in the Drones*, U.S. ARMY (Oct. 17, 2024), [https://www.army.mil/article/280609/send\\_in\\_the\\_drones](https://www.army.mil/article/280609/send_in_the_drones) [<https://perma.cc/7ETE-25VC>] (discussing the how the drone has been used and amount sold).

<sup>51</sup> Sam Skove, *In Shakeup, Army Cancels Planned Scout Helo, Will Retire Two Drones*, DEF. ONE (Feb. 8, 2024), <https://www.defenseone.com/defense-systems/2024/02/shakeup-army-cancels-planned-fara-helo-will-retire-two-drones/394061/> [<https://perma.cc/E4QA-2AKW>].

<sup>52</sup> SINGER, *supra* note 14, at 37.

<sup>53</sup> *Unmanned Aircraft Systems (UAS)*, U.S. DEP’T OF DEF., <https://dod.defense.gov/UAS> [<https://perma.cc/U83D-NKE4>] (last visited Oct. 23, 2024).

<sup>54</sup> WALSH & SCHULZKE, *supra* note 12, at 14.

<sup>55</sup> Ruxandra Oana Vlad & John Hardy, *Signature Strikes and the Ethics of Targeted Killing*, 38 INT’L J. OF INTELL. & COUNTERINTELL. 1202, 1203 (2024).

<sup>56</sup> WALSH & SCHULZKE, *supra* note 12, at 14.

<sup>57</sup> *Id.* at 16.

<sup>58</sup> Marino, *supra* note 52.

<sup>59</sup> MISSION CRITICAL PARTNERS, *THE USES CONTINUE TO EMERGE: PUBLIC SAFETY DRONES AND CONSIDERATIONS 1* (Mar. 2019), <https://www.911.gov/assets/The-Uses-Continue-to-Emerge--Public-Safety-Drones-and-Considerations> [<https://perma.cc/6TLY-CTLT>].

<sup>60</sup> *Israel-Hamas War*, BRITANNICA: WORLD HIST.: WARS, BATTLES & ARMED CONFLICT (Dec. 30, 2025), <https://www.britannica.com/event/Israel-Hamas-War#ref1320682> [<https://perma.cc/3GP5-C3EL>].

<sup>61</sup> Kerry Chávez & Ori Swed, *How Hamas Innovated with Drones to Operate like an Army*, BULLETIN OF THE ATOMIC SCIENTISTS (Nov. 1, 2023), <https://thebulletin.org/2023/11/how-hamas-innovated-with-drones-to-operate-like-an-army/> [<https://perma.cc/ZEV4-J2FA>].

towers and devices to distract and confuse Israeli forces while launching rockets to destroy larger targets.<sup>62</sup> In addition, Hamas used a large swarm of drones to target naval ships.<sup>63</sup> Several of the drones that Hamas used were bought off the shelf and modified by adding weapons.<sup>64</sup> It cannot be said for certain whether or not Hamas learned from the Russia-Ukraine war or vice versa, but like nations' military groups, terrorist organizations continue to observe and develop new drone technology<sup>65</sup> without considering any legalities of war.<sup>66</sup>

In the current Russia-Ukraine war, drones are rapidly developing with creative new advancements.<sup>67</sup> Recently, Ukraine attached thermite-spewing canisters to its drones.<sup>68</sup> Thermite is an aluminum and metal oxide mixture that can reach temperatures over 4,500 degrees Fahrenheit when ignited.<sup>69</sup> For context, thermite was used to weld railroads quickly.<sup>70</sup> These thermite-spewing drones have developed the nickname "dragon drones."<sup>71</sup> Ukraine developed these dragon drones to burn the brush that Russian soldiers use to provide cover for themselves, their weapons, and their equipment.<sup>72</sup> By doing so, Russian soldiers would be more susceptible to attack.<sup>73</sup> In retaliation, Russia also created dragon drones.<sup>74</sup> As of now, dragon drones do not violate international laws, primarily since they are not used to harm innocent civilians.<sup>75</sup>

Russia has increased its drone production from 140,000 in 2023 to an estimated 1.4 million in 2024.<sup>76</sup> This shows how staggering the rise in drone technology is and what the future of warfare looks like. One type of drone that Russia is acquiring is the Shahed-136 drone.<sup>77</sup> The Shahed-136 drone is

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<sup>62</sup> *Id.*

<sup>63</sup> *Id.*

<sup>64</sup> *Id.*

<sup>65</sup> Daniel Estrin, *Hamas Attack on Israeli Techno Festival Leaves at least 260 dead and Many Missing*, NPR: MIDDLE EAST (Oct. 10, 2023, at 17:05 ET), <https://www.npr.org/2023/10/10/1204950063/hamas-attack-on-israeli-techno-festival-leaves-at-least-260-dead-and-many-missin> [<https://perma.cc/ZQ2T-XP4V>].

<sup>66</sup> See *infra* Section II.B.

<sup>67</sup> Marc Santora, *Rise of the Dragons: Fire-Breathing Drones Duel in Ukraine*, N.Y. TIMES (Oct. 12, 2024), <https://www.nytimes.com/2024/10/12/world/europe/ukraine-russia-dragon-drones.html> [<https://perma.cc/Z64Y-BGST>].

<sup>68</sup> *Id.*

<sup>69</sup> *Thermite*, BISN, <https://bisn.com/technology/thermite/> [<https://perma.cc/6KNN-PKPU>] (last visited Nov. 7, 2024).

<sup>70</sup> Santora, *supra* note 69.

<sup>71</sup> *Id.*

<sup>72</sup> *Id.*

<sup>73</sup> *Id.*

<sup>74</sup> *Id.*

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> Clare Sebastian et al., *Russia is Intensifying its Air War in Ukraine. A Secretive Factory is Ramping up Drone Production to Fuel the Offensive*, CNN: WORLD: EUROPE (Dec. 27, 2024, at 08:02 ET),

a kamikaze-type drone currently used by Russia to destroy Ukrainian infrastructure.<sup>78</sup> An advancement of this drone is that it can be used in a swarming formation, meaning multiple suicide drones can be used to hit one target.<sup>79</sup> Iran produces the Shahed-136, and Russia has an agreement to purchase 6,000 more by September 2025.<sup>80</sup> In the Russia-Ukraine conflict, Shahed-style drone strikes increased by 542% from May 2024 to November 2024.<sup>81</sup> The staggering increase in drone strikes, even with one particular drone, shows how rapidly drone warfare is increasing.

In addition to remotely piloted drones, autonomous drones are on the rise.<sup>82</sup> Autonomous drones do not need a human operator.<sup>83</sup> Through technology, autonomous drones can have pre-planned paths and analyze and adapt based on intelligence gathering.<sup>84</sup> With the rapidly advancing drone technology, it is only a matter of time before more drones become autonomous.

In 2022, Ukraine launched an “I Want to Live” (hereinafter “the program”) campaign, which aided Russian soldiers to a haven who want to escape the war.<sup>85</sup> Those who wished to participate would contact program managers through various channels and request information without surrendering at that time.<sup>86</sup> The program would then send a drone to the designated spot and escorts Russian soldiers to a pre-determined haven.<sup>87</sup>

The U.S. military currently uses drones for strikes, reconnaissance, support to troops, and intelligence gathering.<sup>88</sup> The U.S. Army and government officials have recognized that warfare is changing and that the

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<https://www.cnn.com/2024/12/27/europe/russia-ukraine-war-drones-alabuga-factory-intl-invs/index.html> [https://perma.cc/QRA2-NT4B].

<sup>78</sup> *Shahed-136*, GLOB. DEF. NEWS (Nov. 23, 2025, at 14:46 ET), <https://armyrecognition.com/military-products/army/unmanned-systems/unmanned-aerial-vehicles/shahed-136-loitering-munition-kamikaze-suicide-drone-technical-data> [https://perma.cc/2TW8-5QXY].

<sup>79</sup> *Id.*

<sup>80</sup> Sebastian et al., *supra* note 79.

<sup>81</sup> *Id.*

<sup>82</sup> Samuel Bendett & David Kirichenko, *Battlefield Drones and the Accelerating Autonomous Arms Race in Ukraine*, MOD. WAR INST. AT WEST POINT (Jan. 10, 2025), <https://mwi.westpoint.edu/battlefield-drones-and-the-accelerating-autonomous-arms-race-in-ukraine> [https://perma.cc/9AUL-DV5F] (stating Ukraine is increasing the usage of drones with artificial intelligence capabilities).

<sup>83</sup> *The Ultimate Guide to Autonomous Drones: Benefits, Applications, and Top Models*, JOUAV UNMANNED AIRCRAFT SYS. (July 1, 2025), <https://www.jouav.com/blog/autonomous-drones.html> [https://perma.cc/Q2PE-4WBC].

<sup>84</sup> *Id.*

<sup>85</sup> David Wallace & Shane Reeves, *Ukraine Symposium - The “I Want to Live” Project and Technologically-Enabled Surrender*, LIEBER INST. FOR LAW AND WARFARE AT WEST POINT: ARTICLES OF WAR (Jan. 13, 2023), <https://lieber.westpoint.edu/i-want-to-live-project-technologically-enabled-surrender/> [https://perma.cc/8HD9-WFQ2].

<sup>86</sup> *Id.*

<sup>87</sup> *Id.*

<sup>88</sup> Marino, *supra* note 52.

defense industry must adapt, too.<sup>89</sup> The U.S. House of Representatives (hereinafter “House”) proposed the creation of a separate branch in the U.S. Army specifically designated to oversee small and medium-sized drones.<sup>90</sup> A branch within the U.S. Army is a career field, like field artillery, infantry, and aviation.<sup>91</sup> Within each U.S. Army branch, there are military occupational specialties like aircraft electricians and drone operators.<sup>92</sup> The House wanted to establish a drone branch instead of having drone operators function under the aviation branch. However, senior military leaders in the U.S. Army said drone operators should be intertwined within current units before a separate branch is created.<sup>93</sup>

Additionally, following an announcement in February 2024, the U.S. Army will phase out the Raven and Shadow reconnaissance drones and develop other UASs that reflect how the Russia-Ukraine war is evolving.<sup>94</sup> More recently, Secretary of Defense (SecDef)<sup>95</sup> Pete Hegseth signed a memorandum stating he will start updating procurement processes, so more combat units have access to drones.<sup>96</sup> His goal is to ensure the U.S. military is the leading force in drone warfare.<sup>97</sup>

## 2. Civilian drone usage in the U.S.

One evening in mid-November 2024, thousands of people in New Jersey and other states noticed multiple drones in the sky.<sup>98</sup> Without answers for a few months, people grew nervous and conspiracy theories abounded that

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<sup>89</sup> *Army Announces Aviation Investment Rebalance*, U.S. ARMY (Feb. 8, 2024), [https://www.army.mil/article/273594/army\\_announces\\_aviation\\_investment\\_rebalance](https://www.army.mil/article/273594/army_announces_aviation_investment_rebalance) [<https://perma.cc/9JAH-LBXB>].

<sup>90</sup> ANDREW FEICKERT & DANIEL M. GETTINGER, CONG. RSCH. SERV., IN12382, PROPOSAL TO CREATE A U.S. ARMY DRONE CORPS 1 (June 18, 2024) [<https://perma.cc/AE8J-GQUW>].

<sup>91</sup> *Army Branches*, THE UNIV. OF S. MISS.: MIL. SCI., <https://www.usm.edu/military-science/army-branches.php> [<https://perma.cc/3QAP-UHVL>] (last visited Feb. 14, 2025).

<sup>92</sup> *Aviation Branch Enlisted MOS Descriptions and Location*, U.S. ARMY HUM. RES. COMMAND (Dec. 2, 2024), <https://www.hrc.army.mil/content/Aviation%20Branch%20Enlisted%20MOS%20Descriptions%20and%20Location> [<https://perma.cc/6DHS-RLL4>].

<sup>93</sup> Anastasia Obis, *It Is ‘Too Early’ for an Army Drone Branch, Rainey Says*, FED. NEWS NETWORK (June 4, 2024, at 18:27 ET), <https://federalnewsnetwork.com/defense-main/2024/06/it-is-too-early-for-an-army-drone-branch-rainey-says/> [<http://perma.cc/B93M-NR8Z>].

<sup>94</sup> *Id.*

<sup>95</sup> President Trump signed an Executive Order changing the Department of Defense to the Department of War. Throughout this Note, I will still refer to it as the Department of Defense.

<sup>96</sup> U.S. DEP’T OF DEF., UNLEASHING U.S. MILITARY DRONE DOMINANCE (July 10, 2025), <https://media.defense.gov/2025/Jul/10/2003752117/-1/-1/1/UNLEASHING-U.S.-MILITARY-DRONE-DOMINANCE.PDF> [<https://perma.cc/G8BN-KYXK>].

<sup>97</sup> *See id.*

<sup>98</sup> Rebecca Cohen, *As Drones Are Spotted in New Jersey and Other States, Here’s What We Know So Far*, NBC NEWS (Dec. 17, 2024, at 11:45 ET), <https://www.nbcnews.com/news/us-news/drones-new-jersey-us-sightings-what-know-rcna184367> [<https://perma.cc/ALN3-L4W4>].

foreign nationals operated the drones.<sup>99</sup> At one point, the drones flew in restricted airspace, which closed an airport.<sup>100</sup> Ultimately, the Trump Administration announced that these drones were authorized by the Federal Aviation Administration (FAA) to conduct research.<sup>101</sup>

Further, those drones were seen flying over military bases in New Jersey.<sup>102</sup> With all the technology the U.S. military has, they are unable to thoroughly investigate and conduct reconnaissance missions within the U.S.<sup>103</sup> According to the New Jersey Office of Homeland Security and Preparedness, state and local authorities do not have any authority to shoot down drones.<sup>104</sup> With the rise of drone development in the Middle East, Ukraine, and Russia, it is valid for U.S. citizens to be concerned over the drone sightings, just like the Chinese spy balloon incident in 2023.<sup>105</sup> People seem to have an “out of mind, out of sight” mentality, but these recent events show that technology has no bounds. As a result of rapidly emerging technology, ROEs governing military operations should be updated to reflect emerging capabilities.

## II. ARMED CONFLICT LAWS AND POLICIES

Judge advocates’ advice to military commanders considers the U.S. Armed Forces’ safety, civilians’ safety, and various laws.<sup>106</sup> To understand the decisions commanders ultimately make, one must understand the laws and policies surrounding drone warfare on an international scale. This section presents international laws and policies the U.S. abides by that are crucial to carrying out international military missions.

### *A. International Laws*

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<sup>99</sup> Doha Madani, *White House Says Most New Jersey Drones Were Authorized by FAA: ‘This was Not the Enemy,’* NBC NEWS (Jan. 28, 2025, at 14:05 ET), <https://www.nbcnews.com/news/us-news/white-house-says-new-jersey-drones-authorized-faa-was-not-enemy-rcna189646> [<https://perma.cc/CRH3-TAUT>].

<sup>100</sup> *Id.*

<sup>101</sup> *Id.*

<sup>102</sup> C. Todd Lopez, *Joint Staff Addresses Drones Over New Jersey Military Installations*, U.S. DEP’T OF DEF. (Dec. 14, 2024), <https://www.defense.gov/News/News-Stories/Article/Article/4002374/joint-staff-addresses-drones-over-new-jersey-military-installations/> [<https://perma.cc/D4KC-CVRN>].

<sup>103</sup> *Id.*

<sup>104</sup> *New Jersey UAS/Drone Incidents FAQ*, N.J. OFF. OF HOMELAND SEC. & PREPAREDNESS: THREAT LANDSCAPE: DRONES AND UNMANNED AIRCRAFT SYS., <https://www.njohsp.gov/threat-landscape/drones-and-unmanned-aircraft-systems/new-jersey-uas-drone-incidents-faq> [<https://perma.cc/GMQ6-89DM>] (last visited Feb. 16, 2025).

<sup>105</sup> Courtney Kube & Carol E. Lee, *U.S. Intelligence Officials Determined the Chinese Spy Balloon Used a U.S. Internet Provider to Communicate*, NBC NEWS (Dec. 28, 2023, at 18:22 ET), <https://www.nbcnews.com/news/investigations/us-intelligence-officials-determined-chinese-spy-balloon-used-us-inter-rcna131150> [<https://perma.cc/5JJD-29EA>].

<sup>106</sup> *See generally Protect Our Nation in Army Law.*, *supra* note 5 (describing judge advocates’ role in advising commanders on compliance with international and national security law).

The Geneva Convention and Additional Protocols are international treaties that contain rules to restrict acts of violence during armed conflict.<sup>107</sup> The Geneva Convention protects individuals who are not a part of the war (civilians) or those who have been declared no longer able to participate in hostilities such as injured soldiers or prisoners of war.<sup>108</sup>

Customary International Law (CIL) is not written law.<sup>109</sup> Instead, it is “evidence of general practice accepted as law.”<sup>110</sup> General practice occurs when a states conduct is both consistent and legally justified, which then evolves into legal authority and accepted customary law.<sup>111</sup> CIL is critical because not all nations are party to treaties, but in practice, they are bound by CIL.<sup>112</sup>

International Humanitarian Law (IHL), or the law of war,<sup>113</sup> applies when nations are involved in armed conflict.<sup>114</sup> The development of IHL stemmed from the 1949 Geneva Convention and is generally considered CIL.<sup>115</sup> IHL attempts to set rules to limit the catastrophic damage caused during war.<sup>116</sup> There are two forms of armed conflict: international armed conflict (IAC) and non-international armed conflict (NIAC).<sup>117</sup> IAC is between two or more nations, like Russia and Ukraine.

On the other hand, NIAC deals with only one nation.<sup>118</sup> Within that nation, either the military is fighting armed groups, or armed groups are fighting each other. For example, in 2024, gangs were fighting for power in the Haitian capital, forcing the Prime Minister to resign.<sup>119</sup> The way the gangs

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<sup>107</sup> *The Geneva Conventions and Their Commentaries*, INT’L COMM. OF THE RED CROSS: LAW AND POL’Y: GENEVA CONVENTIONS AND THE LAW, <https://www.icrc.org/en/law-and-policy/geneva-conventions-and-their-commentaries> [<https://perma.cc/4ETS-L7JC>] (last visited Feb. 15, 2025).

<sup>108</sup> *Id.*

<sup>109</sup> *Customary International Humanitarian Law*, INT’L COMM. OF THE RED CROSS (Oct. 29, 2010), <https://www.icrc.org/en/document/customary-international-humanitarian-law-0> [<https://perma.cc/9DGT-V3M8>].

<sup>110</sup> Statute of the Int’l Ct. of Just., Art. 38(1)(b).

<sup>111</sup> *The Practical Guide to Humanitarian Law*, MEDECINS SANS FRONTIERES, <https://guide-humanitarian-law.org/content/article/3/customary-international-law/> [<https://perma.cc/XK8M-U8H5>] (last visited Nov. 6, 2024).

<sup>112</sup> *Customary International Humanitarian Law*, *supra* note 112.

<sup>113</sup> In this Note, I will use IHL and law of war interchangeably.

<sup>114</sup> *What is International Humanitarian Law?*, INT’L COMM. OF THE RED CROSS (July 2004), [https://www.icrc.org/sites/default/files/external/doc/en/assets/files/other/what\\_is\\_ihl.pdf](https://www.icrc.org/sites/default/files/external/doc/en/assets/files/other/what_is_ihl.pdf) [<https://perma.cc/4RE2-ZE5F>].

<sup>115</sup> *International Humanitarian Law*, EUROPEAN COMM’M, [https://civil-protection-humanitarian-aid.ec.europa.eu/what/humanitarian-aid/international-humanitarian-law\\_en#what-is-it](https://civil-protection-humanitarian-aid.ec.europa.eu/what/humanitarian-aid/international-humanitarian-law_en#what-is-it) [<https://perma.cc/M6SM-5BZJ>] (last visited Feb. 15, 2025).

<sup>116</sup> *What is International Humanitarian Law?*, *supra* note 117.

<sup>117</sup> *Id.*

<sup>118</sup> *Id.*

<sup>119</sup> Vanessa Buschschlüter, *The Men Fighting Gang Leader Barbecue for Power in Haiti*, BBC (Mar. 12, 2024), <https://www.bbc.com/news/world-latin-america-68534619> [<https://perma.cc/J7BD-GF5H>].

operate must comply with IHL, even though the Haitian gangs fell short of IHL principals.<sup>120</sup>

International Human Rights Law (IHRL) is similar to IHL, except it applies in peacetime and in times of conflict.<sup>121</sup> In addition, IHRL applies to governments rather than the parties engaged in war.<sup>122</sup> IHRL would require that forces involved in armed combat allow opposing side members to surrender when the opportunity arises.<sup>123</sup>

The Geneva Convention, IHL, IHRL, and CIL are tied together to limit the negative effects of war. As drone warfare continues to become more prevalent, the way in which drones are used must comply with the law of war and CIL. For example, drones should not be used to target civilians and hospital transports, which are protected classes in accordance with the Geneva Convention.<sup>124</sup>

### B. Principles of War

The purpose of the principles of the law of war is to aid in interpreting laws and treaties.<sup>125</sup> Even when there are no specific laws, the principles of the law of war still apply.<sup>126</sup> The law of war is essential to minimize the catastrophic side effects and aftermath of war. The law of war principles includes military necessity, proportionality, humanity, distinction, and honor.<sup>127</sup>

#### 1. Military Necessity

Military necessity has been defined in several ways.<sup>128</sup> The Department of Defense Law of War Manual defines military necessity as “the principle that justifies the use of all measures needed to defeat the enemy as quickly and

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<sup>120</sup> *See id.*

<sup>121</sup> INT’L COMM. OF THE RED CROSS, *International Humanitarian Law and Human Rights. Similarities and Differences*, INT’L COMM. OF THE RED CROSS (2003), <https://gsdrc.org/document-library/international-humanitarian-law-and-human-rights-similarities-and-differences/> [https://perma.cc/FKW5-GSKF].

<sup>122</sup> *What Is the Difference Between IHL and Human Rights Law?*, INT’L COMM. OF THE RED CROSS (Jan. 22, 2015), <https://www.icrc.org/en/document/what-difference-between-ihl-and-human-rights-law> [https://perma.cc/69MV-ZBA5].

<sup>123</sup> *Id.*

<sup>124</sup> *The Geneva Conventions and Their Commentaries*, *supra* note 110.

<sup>125</sup> OFF. OF GEN. COUNS., U.S. DEP’T OF DEF., DEPARTMENT OF DEFENSE LAW OF WAR MANUAL §2.1.2 (July 31, 2023) [hereinafter LAW OF WAR MANUAL] <https://media.defense.gov/2023/Jul/31/2003271432/-1/-1/0/DOD-LAW-OF-WAR-MANUAL-JUNE-2015-UPDATED-JULY%202023.PDF> [https://perma.cc/94F7-VVTQ].

<sup>126</sup> *Id.* § 2.1.2.2.

<sup>127</sup> *Id.* § 2.1.

<sup>128</sup> *Id.* § 2.2.

efficiently as possible that are not prohibited by the law of war.”<sup>129</sup> Military necessity also “permits a belligerent, subject to the laws of war, to apply any amount and kind of force to compel the complete submission of the enemy with the least possible expenditure of time, life, and money.”<sup>130</sup> Not only does military necessity justify the use needed to defeat enemies, but it also justifies the collateral damage required to complete the mission.<sup>131</sup> However, all actions must comply with the law of war.<sup>132</sup> When considering whether a mission violates the law of war under military necessity, the mission set is only assessed based on the information known at the time.<sup>133</sup> Missions rapidly change when real-time intelligence is gathered. Absent negligence, commanders and service members would likely not face prosecuted based on information discovered later.<sup>134</sup> Applying military necessity can be difficult. The law of war defines military necessity more concretely by:

(1) permitting consideration of the broader imperatives of winning the war as quickly and efficiently as possible; (2) recognizing that certain types of actions are, as a general matter, inherently militarily necessary; and (3) recognizing that persons must assess the military necessity of an action in good faith based on the information available to them at the relevant time and that they cannot be judged based on information that subsequently comes to light.<sup>135</sup>

## 2. Proportionality

Proportionality considers an act justified if that act is neither unreasonable nor excessive.<sup>136</sup> To accomplish the mission, there should not be more civilian casualties and destruction to nonmilitary infrastructure than necessary. Some civilian casualties are expected in war, but collateral damage should be avoided.<sup>137</sup> An example of a proportionality consideration would be a justified drone strike on a known enemy combatant, but in the process of said strike, several civilians were killed. While planning a drone

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<sup>129</sup> *Id.*

<sup>130</sup> 11 THE INT’L MIL. TRIB., TRIALS OF WAR CRIMINAL BEFORE THE NUREMBERG MILITARY TRIBUNALS 1253 (1950) [https://tile.loc.gov/storage-services/service/ll/lmlp/2011525364\\_NT\\_war-criminals\\_Vol-XI/2011525364\\_NT\\_war-criminals\\_Vol-XI.pdf](https://tile.loc.gov/storage-services/service/ll/lmlp/2011525364_NT_war-criminals_Vol-XI/2011525364_NT_war-criminals_Vol-XI.pdf) [<https://perma.cc/Y36N-PWMS>].

<sup>131</sup> LAW OF WAR MANUAL, *supra* note 125, § 2.2.1.

<sup>132</sup> *Id.* § 2.2.2.1.

<sup>133</sup> *Id.* § 2.2.3.

<sup>134</sup> *Id.* § 5.3.2.

<sup>135</sup> *Id.* § 2.2.3.

<sup>136</sup> *Id.* § 2.4.

<sup>137</sup> *See Proportionality*, INT’L COMM. OF THE RED CROSS: A TO Z, [https://casebook.icrc.org/a\\_to\\_z/glossary/proportionality](https://casebook.icrc.org/a_to_z/glossary/proportionality) [<https://perma.cc/WG8S-R4UC>] (last visited Feb. 16, 2025).

strike, commanders and judge advocates must take reasonable steps to ensure civilian casualties are limited.

### 3. Humanity

Under the principle of humanity, one cannot unnecessarily destroy or injure to fulfill a mission.<sup>138</sup> More violence is not necessary once the mission has been completed. However, the Convention on Certain Conventional Weapons (CCW) Protocol III on Incendiary Weapons states that U.S. Forces may use those weapons even if there are civilians, if there is sufficient evidence that the use of these weapons would “cause fewer casualties and/or less collateral damage than alternative weapons.”<sup>139</sup>

When an enemy combatant is placed *hors de combat* (French “for out of battle”), they are protected and no longer subject to attack.<sup>140</sup> An example of *hors de combat* includes enemy combatants who are injured or who have surrendered.<sup>141</sup> The continuation of injury to an *hors de combat* soldier violates the rule of humanity.

### 4. Distinction

The distinction principle requires armed conflict parties to differentiate between civilians and armed forces.<sup>142</sup> The parties must:

(1) take certain measures to help ensure that military forces and civilians can be visually distinguished from one another; (2) physically separate, as feasible, their military objectives from the civilian population and other protected persons and objects; and (3) refrain from the misuse of protected persons and objects to shield military objectives.<sup>143</sup>

### 5. Honor

Honor demands fairness for both sides during an armed conflict, which includes “mutual respect between opposing military forces.”<sup>144</sup> While parties

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<sup>138</sup> LAW OF WAR MANUAL, *supra* note 125, § 2.3.

<sup>139</sup> *Id.* § 2.3.2.

<sup>140</sup> *Id.* § 2.3.1.

<sup>141</sup> *Id.* § 5.9.

<sup>142</sup> *Id.* § 2.5.

<sup>143</sup> *Id.* § 2.5.3.

<sup>144</sup> *Id.* § 2.6.

to an armed conflict can use force they deem necessary to carry out missions, the type of force is limited by honor.<sup>145</sup>

The five principles of war guide nations to develop rules and guidelines for their troops to ensure a fair fight.<sup>146</sup> The U.S. military bases its ROEs on the five principles of war and other customary law, ensuring our troops serve respectfully and limit collateral damage.<sup>147</sup>

#### *D. Rules of Engagement*

Rules of Engagement are “[d]irectives issued by competent military authority that delineate the circumstances and limitations under which U.S. forces will initiate and/or continue combat engagement with other forces encountered.”<sup>148</sup> ROEs differ between theaters (where military operations occur) and provide flexibility on allowable military action.<sup>149</sup>

ROEs provide guidance from the U.S. President and SecDef on missions, help when there is a transition from peacetime to war, and facilitate training.<sup>150</sup> They are particularly beneficial when troops cannot establish communication outside their position.<sup>151</sup> As the ROEs are created based on the United States’s commitment to prosecuting fair and just warfare, the President sets the overall tone of America’s warfighting, but specific sets of ROEs are often delegated to lower-level commands in the field.<sup>152</sup> ROEs protect battlefield decisions made by Soldiers because they provide consistent guidance for units as they engage various enemies.<sup>153</sup> If ROEs are violated, Soldiers can be criminally charged under the Uniform Code of Military Justice (UCMJ).<sup>154</sup>

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<sup>145</sup> See INT’L COMM. OF THE RED CROSS, CONVENTION ON PROHIBITIONS OR RESTRICTIONS ON THE USE OF CERTAIN CONVENTIONAL WEAPONS WHICH MAY BE DEEMED TO BE EXCESSIVELY INJURIOUS OR TO HAVE INDISCRIMINATE EFFECTS, (June 2005), [https://www.icrc.org/sites/default/files/external/doc/en/assets/files/other/icrc\\_002\\_0811.pdf](https://www.icrc.org/sites/default/files/external/doc/en/assets/files/other/icrc_002_0811.pdf) [<https://perma.cc/3K2A-QNA4>].

<sup>146</sup> LAW OF WAR MANUAL, *supra* note 125, § 1.1.1.

<sup>147</sup> See U.S. MARINE CORPS, B130936, LAW OF WAR/INTRODUCTION TO RULES OF ENGAGEMENT 2, <https://www.trngcmd.marines.mil/Portals/207/Docs/TBS/B130936%20Law%20of%20War%20and%20Rules%20of%20Engagement.pdf> [<https://perma.cc/42FG-QT68>] (last visited Feb. 16, 2025).

<sup>148</sup> *Id.* at 13.

<sup>149</sup> ROEs for military operations are classified by the U.S. government, so any suggestions and discussions in this Note are purely hypothetical.

<sup>150</sup> U.S. MARINE CORPS, *supra* note 147, at 13.

<sup>151</sup> Peter S. Konchak, *Rules of Engagement in Large Scale Combat Operations*, LIEBER INST. FOR LAW AND WARFARE AT WEST POINT: ARTICLES OF WAR (Apr. 9, 2024), <https://lieber.westpoint.edu/rules-of-engagement-large-scale-combat-operations/> [<https://perma.cc/ZY54-U5EG>].

<sup>152</sup> See *id.*

<sup>153</sup> U.S. Marine Corps, *supra* note 147, at 13–14.

<sup>154</sup> Adam, *Military Rules of Engagement: A Comprehensive Guide*, UNIF. CODE OF MIL. JUST., <https://ucmj.us/military-rules-of-engagement/> [<https://perma.cc/FG7C-LLDA>] (last visited Feb. 15, 2025).

Most ROEs are classified, but some are made public—though they remain heavily redacted. From what is made public, there are ROEs for land, sea, space, and air operations, which provide information, lists, and steps to be taken if certain situations occur.<sup>155</sup> An example is a list for commanders to consult if they believe an individual shows signs of hostile intent.<sup>156</sup> From what is publicly available, ROEs do not have sections related explicitly to drone usage.<sup>157</sup>

### III. ANALYSIS OF DRONE USE AND IMPLEMENTATION

Planning to eliminate another human being demands respect for the laws of war and the utmost attention to detail. War can change at a moment's notice, so it is essential to prepare for unforeseen events. While preparing her legal review, the judge advocate from this Note's introduction must thoroughly consider if the adoption of the quadcopter is a legal weapon and if the mission complies with the principles of war.<sup>158</sup>

#### *A. Drone Adoption Standards*

Before adoption into its arsenal, the U.S. military must consider if new weapons would cause superfluous injury, are inherently indiscriminate, and are weapons that are already prohibited.<sup>159</sup> In addition, while not required by the laws of war, the Department of Defense (DOD) requires using weapons for their original intent and receiving authorization before modifying weapons.<sup>160</sup> As long as the modified quadcopter satisfies the aforementioned factors, it would be considered legal, regardless of whether it has yet been used in warfare.<sup>161</sup>

#### 1. Superfluous Injury

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<sup>155</sup> See OFF. OF THE CHAIRMAN OF THE JOINT CHIEFS OF STAFF, STANDING RULES OF ENGAGEMENT/STANDING RULES FOR THE USE OF FORCE FOR US FORCES (U) (June 13, 2005) [hereinafter CJCSI 3121.01B], [https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/Joint\\_Staff/20-F-1436\\_FINAL\\_RELEASE.pdf](https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/Joint_Staff/20-F-1436_FINAL_RELEASE.pdf) [<https://perma.cc/B4RB-H5M6>].

<sup>156</sup> *Id.* at E-A-1.

<sup>157</sup> See CJCSI 3121.01B, *supra* note 155.

<sup>158</sup> Because this is a hypothetical situation, the Judge Advocate here is incorporating both, even though in theory, the drone and other attachments have gone through a legal review. However, to save time due to the “urgent matter,” she is going to do a legal review of the attachments on the drone while she is also reviewing the principles of war.

<sup>159</sup> LAW OF WAR MANUAL, *supra* note 125, § 6.2.2.

<sup>160</sup> *Id.* § 6.3.

<sup>161</sup> *Id.* § 6.2.1.

Weapons that cause superfluous injury are those that cause unnecessary suffering when no military objective is attached to the injuries that occur.<sup>162</sup> During WWI, over 100,000 troops were exposed to chemical weapons, which resulted in horrendous deaths and injuries.<sup>163</sup> As an end result of the use of chemical weapons, over one million people died or suffered lifelong injuries, such as blindness.<sup>164</sup> In 1925, chemical weapons were banned from use in war due to their ability to cause superfluous injury.<sup>165</sup>

In our hypothetical, the modified quadcopter will limit the amount of unnecessary suffering. Unlike its sister, the Predator drone equipped with Hellfire missiles,<sup>166</sup> the proposed drone system will carry smaller rounds and explosives, restricting the range of damage. Considering that the Predator started as a reconnaissance drone and was later authorized to carry and deploy Hellfire missiles,<sup>167</sup> precedent has been set for modifying drones from their original mission and design. If our hypothetical drone operator does not eliminate more targets than necessary, the modified quadcopter would not cause superfluous injuries.

## 2. Inherently Indiscriminate

Weapons are considered inherently indiscriminate if they cannot be used in accordance with the IHL principles of distinction and proportionality.<sup>168</sup> Additional Protocol I prohibits weapons that cannot discriminate between civilians and military targets.<sup>169</sup> Examples of indiscriminate weapons are nuclear weapons,<sup>170</sup> anti-personnel landmines, cluster bombs, and incendiary weapons.<sup>171</sup> There is no clear indication under CIL if certain weapons are

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<sup>162</sup> William H. Boothby, *The Drone Threat, The Laser Response, and the Law – Part 1*, LIEBER INST. FOR LAW AND WARFARE AT WEST POINT: ARTICLES OF WAR (Jan. 10, 2025), <https://lieber.westpoint.edu/drone-threat-laser-response-law-part-i/> [<https://perma.cc/6ZDE-X8FD>]; see *Rule 70. Weapons of a Nature to Cause Superfluous Injury or Unnecessary Suffering*, INT'L COMM. OF THE RED CROSS, <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule70> [<https://perma.cc/DT9R-7TB7>] (last visited Feb. 16, 2025).

<sup>163</sup> *Chemical Weapons*, UNITED NATIONS: OFF. FOR DISARMAMENT AFFS., <https://disarmament.unoda.org/wmd/chemical/> [<https://perma.cc/A6E7-BVTZ>] (last visited Feb. 15, 2025).

<sup>164</sup> *History: Looking Back Helps Us Look Forward*, OPCW, <https://www.opcw.org/about-us/history> [<https://perma.cc/7VVY-HDR4>] (last visited Feb. 15, 2025).

<sup>165</sup> *Chemical Weapons*, *supra* note 163.

<sup>166</sup> WALSH & SCHULZKE, *supra* note 12, at 12.

<sup>167</sup> *Id.*

<sup>168</sup> LAW OF WAR MANUAL, *supra* note 125, § 6.7.1.

<sup>169</sup> *Rule 71. Weapons That Are by Nature Indiscriminate*, INT'L COMM. OF THE RED CROSS [hereinafter *Rule 71*], <https://ihl-databases.icrc.org/en/customary-ihl/v1/rule71> [<https://perma.cc/VD3V-NSKL>] (last visited Feb. 16, 2025).

<sup>170</sup> Written Statement of the Gov't of the U.S. to the United Nations General Assembly 23 (June 20, 1995) (stating that the U.S. does not believe nuclear weapons are inherently indiscriminate) (on file with author).

<sup>171</sup> *Rule 71*, *supra* note 169.

illegal or only how they are used.<sup>172</sup> In 2021, an MG-9 Reaper drone strike in Afghanistan sadly killed 10 civilians, including seven children.<sup>173</sup> Faulty intelligence received from the Reaper caused the disastrous mission.<sup>174</sup> Because of this, it is imperative that missions involving drones are closely monitored so civilians are not accidentally targeted.

Under these circumstances, our hypothetical quadcopter drone has already passed the U.S. military's legal review of inherently indiscriminate scrutiny as the drone is currently being tested.<sup>175</sup> On the other hand, it is unlikely the special operations team would be able to attach thermite to the drone. If intelligence determines that civilians are within the hideout, the thermite would be clearly indiscriminate because it cannot distinguish between the target, other hostiles, and innocent civilians.<sup>176</sup>

If it is determined that attaching explosive devices to our hypothetical drone is the most efficient way to neutralize the target, the type of explosive would need to be considered. One could argue that explosives are inherently indiscriminate due to the blast radius.<sup>177</sup> However, unlike mustard gas, explosives only explode in one area rather than lingering for long periods.<sup>178</sup> There is, of course, always a chance of collateral damage with the use of any sort of weapon.

In addition to explosives, our hypothetical quadcopter can be fitted with almost any other small weapon in the U.S. military's arsenal that is considered lawful, such as small arms, shotguns, exploding weapons, and blast weapons.<sup>179</sup> While these weapons are not regarded as indiscriminate, they still need to be used so as not to cause superfluous injuries.<sup>180</sup>

### 3. Weapons Already Prohibited

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<sup>172</sup> *Id.*

<sup>173</sup> Charlie Savage et al., *Newly Declassified Video Shows U.S. Killing of 10 Civilians in Drone Strike*, N.Y. TIMES (Jan. 19, 2022), <https://www.nytimes.com/2022/01/19/us/politics/afghanistan-drone-strike-video.html> [<https://perma.cc/FG8S-SNAV>].

<sup>174</sup> *Id.*

<sup>175</sup> See PROGRAM EXEC. OFF. AVIATION, *Updated Small Unmanned Aircraft Systems Enter Prototype Testing*, U.S. ARMY (Mar. 3, 2023), [https://www.army.mil/article/264521/updated\\_small\\_unmanned\\_aircraft\\_systems\\_enter\\_prototype\\_testing](https://www.army.mil/article/264521/updated_small_unmanned_aircraft_systems_enter_prototype_testing) [<https://perma.cc/R869-TMTH>].

<sup>176</sup> LAW OF WAR MANUAL, *supra* note 125, § 6.7.1.

<sup>177</sup> *Explosive Weapons in Populated Areas*, UNITED NATIONS: OFF. FOR DISARMAMENT AFFS., <https://disarmament.unoda.org/convarms/explosive-weapons> [<https://perma.cc/B29S-EZY3>] (last visited Feb. 16, 2025).

<sup>178</sup> Compare Michael W. Cheek, *Mustard Gas and Chemical Attacks*, EBSCO (2024), <https://www.ebsco.com/research-starters/military-history-and-science/mustard-gas-and-chemical-attacks> [<https://perma.cc/J4BV-42VS>] (explaining gases can stay in the air for days), with Tom Harris, *How C-4 Works*, HOWSTUFFWORKS (Feb. 27, 2024), <https://science.howstuffworks.com/c-4.htm> (explaining how an explosive “burns or decomposes very quickly”).

<sup>179</sup> LAW OF WAR MANUAL, *supra* note 125, § 6.5.1.

<sup>180</sup> See *supra* Section III.A.1.

Weapons that are prohibited cause superfluous injury and are inherently indiscriminate.<sup>181</sup> CIL has determined that poison, poisoned weapons, biological weapons, booby traps, and blinding lasers are forbidden.<sup>182</sup> As long as the quadcopter does not attach any weapons of this nature, it will be a lawful weapon the special operations team can use to accomplish its mission.

Due to the amount of drone strikes that have killed innocent individuals, it is imperative that drone usage and missions are handled with care. Drones should not be used unless there are assurances that the weapons used do not cause more damage than necessary and abide by the law of war.<sup>183</sup>

### *B. Applying the Principles of War*

Looking at our hypothetical, the first step to consider is whether this mission has any military necessity.<sup>184</sup> In our hypothetical, the target has terrorized the world by conducting attacks in countries with no known threats, which killed and injured thousands of Americans and other civilian citizens of our Allies. The target must be neutralized swiftly and with the least amount of collateral damage possible. A small special operations team can conduct reconnaissance of the area and covertly enter to neutralize the target with a drone, striking quickly and efficiently. These actions would be justified by military necessity because the target was eliminated at the earliest moment when there was enough intelligence to identify him correctly and with fewer lives on the line.<sup>185</sup> The Rendulic Rule establishes that military necessity is assessed with the intelligence available at the time rather than information discovered later.<sup>186</sup> Based on this analysis, our hypothetical judge advocate advises the commander that a quadcopter drone can be used for this mission, as its use satisfies the rule of military necessity because fewer casualties will likely occur.

Generally, the principle of humanity forbids the unnecessary suffering and destruction of humans and property.<sup>187</sup> Once the hypothetical special operations team establishes contact and destroys the obstacles with the drone to reach the hideout, they should attempt to limit destruction to the surrounding area, which includes avoiding injury to people outside the scope of the mission—unless acting in self-defense. In addition, once the team breaches the hideout and neutralizes the target, and if the target is placed in

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<sup>181</sup> LAW OF WAR MANUAL, *supra* note 125, § 6.4.1.

<sup>182</sup> *Id.* § 6.4.2.

<sup>183</sup> *See supra* Section III.A.1.

<sup>184</sup> *See supra* Section II.B.1.

<sup>185</sup> WAR DEPARTMENT, RULES OF LAND WARFARE 1 (Oct. 1, 1940) [<https://perma.cc/C9VG-M3VS>].

<sup>186</sup> LAW OF WAR MANUAL, *supra* note 125, § 2.2.3.3.

<sup>187</sup> *See id.* § 2.3.2.

*hors de combat*, they cannot continue to injure the target.<sup>188</sup> However, suppose the hypothetical target is alive and decides to injure the team after being placed in *hors de combat*. In that case, the operators can act in self-defense to subdue the target without violating the principle of humanity.

Proportionality determines the force parties can use to accomplish their military objectives.<sup>189</sup> The force used may not cause excessive injuries or damage, especially to civilians.<sup>190</sup> In our hypothetical, the team is not looking to destroy the entire neighborhood or cause catastrophic damage. They are simply looking to neutralize the target with a small quadcopter drone. However, the proportionality of the attack will fluctuate while the team gathers real-time intelligence to determine the force necessary to achieve their mission.<sup>191</sup>

In armed conflict, parties must distinguish themselves from civilians, and those looking for a target must also be mindful of distinguishing combatants from civilians.<sup>192</sup> However, the distinction principle applies only to humans and not to weapons.<sup>193</sup> Having a team on the ground aids in the ability to distinguish between enemy combatants and civilians. Using the drone, the drone operator can quickly identify enemy combatants and the target through real-time intelligence.<sup>194</sup> In our hypothetical, the target does not follow the principle of distinction, so the special operations team must be careful when carrying out this mission.

The flaw with distinction is the rise of technology. More countries may develop autonomous drones to carry out the bulk of the work.<sup>195</sup> In our hypothetical situation, if, in a strange turn of events, the target has an entirely innocent twin brother, the autonomous drone may not be able to distinguish between the target and his brother. The likelihood that the autonomous drone eliminates the wrong brother is high if no oversight from a human operator exists. The principle of distinction needs to be developed and applied to autonomous weapons through software.

Honor would seem to be the most straightforward of the five IHL principles. In a basic sense, parties owe a sense of respect to each other.<sup>196</sup> But they are allowed to be deceptive toward each other and prepare for deception.<sup>197</sup> The principle of honor protects parties using a protected class

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<sup>188</sup> *Id.* § 2.3.1.

<sup>189</sup> *See id.* § 2.4.

<sup>190</sup> *Id.*

<sup>191</sup> *See infra* Sections III.B.1, III.B.2, III.B.3, III.B.4.

<sup>192</sup> LAW OF WAR MANUAL, *supra* note 125, § 2.5.3.

<sup>193</sup> *Id.* § 6.5.9.3.

<sup>194</sup> *See* SINGER, *supra* note 14, at 34.

<sup>195</sup> Bendett & Kirichenko, *supra* note 82.

<sup>196</sup> *See* LAW OF WAR MANUAL, *supra* note 125, § 2.6.

<sup>197</sup> *Id.* § 2.6.2.2.

against a combatant.<sup>198</sup> For example, armed combatants cannot load themselves into a marked ambulance to ambush the enemy. However, armed combatants' deceptive tactics like those seen on D-Day<sup>199</sup> would not violate the principle of honor.

Each military branch has some variation of honor or respect in its core values.<sup>200</sup> The special operations team will also fight with honor under the law of war.<sup>201</sup> That does not mean, however, that they cannot deceive the target by using diversion tactics to draw the target to one location while using the drone to strike at another.<sup>202</sup>

On its face, there is no legally objectionable violation of the principles of armed conflict with the hypothetical mission. Military necessity is justified because of the need to quickly and efficiently neutralize the target before another terrorist attack occurs. The force used is proportional because there is containment of collateral damage. In the same breath, there is humanity because the team will use force to lessen damage to civilians and property. Before conducting the attack, the team will ensure they have distinguished the target and any enemy combatants from civilians. Lastly, the team will fight with honor, meaning they will give respect to the combatants, especially if they choose to surrender.

Recall again the four courses of action discussed in our hypothetical. First, the special operations team may encounter obstacles that will likely lead to more collateral damage. Second, innocent women and children are in the target's hideout. Third, the target is completely alone and readily available to neutralize. Lastly, the target and his security guards wish to surrender.

### 1. COA 1: The Explosion

Assume that the special operations team, through reconnaissance, discovers the house has several barbed wire fences, improvised explosive devices (IEDs), and booby traps. The team leader determines that the best way forward is to arm the drone with explosives to destroy the IEDs and traps. If explosives are attached to the drone, the likelihood that nearby civilians are injured or killed increases.

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<sup>198</sup> See *id.*

<sup>199</sup> Christopher Klein, *Fooling Hitler: The Elaborate Ruse Behind D-Day*, HIST. (July 30, 2025), <https://www.history.com/news/fooling-hitler-the-elaborate-ruse-behind-d-day> [https://perma.cc/X4RM-KN75] (using fake radio transmissions to confuse the Germans).

<sup>200</sup> See *The Army Values*, U.S. ARMY, <https://www.army.mil/values/index.html> [https://perma.cc/N33U-YAFM] (last visited Feb. 16, 2025); *Our Core Values*, AMERICA'S NAVY, <https://www.navy.mil/About/Our-Core-Values/> [https://perma.cc/DV5G-TERY] (last visited Feb. 16, 2025); *Core Values*, AIR FORCE, <https://www.airforce.com/vision> [https://perma.cc/TH3J-5KKG] (last visited Feb. 16, 2025); *Our Values*, MARINES, <https://www.marines.com/life-as-a-marine/standards/values.html> [https://perma.cc/WF2Z-X9PC] (last visited Feb. 16, 2025).

<sup>201</sup> See LAW OF WAR MANUAL, *supra* note 125, § 2.6.

<sup>202</sup> See *id.* § 5.25.

While analyzing the area and determining that the house is heavily fortified and, ultimately, the drone would be used to destroy or breach the house, the proportionality principle will be considered to determine if the mission would be unlawful. This mission needs to be as stealthy as possible so as not to spook the target into running, and bringing in an explosive ordnance disposal (EOD) team would be too risky, drawing too much attention. It would also take too long and become noticeable if the team tried to disarm everything around the house. Considering proportionality, the team should not use explosive devices that would cause additional damage to the surrounding neighborhood. Since there is intelligence that IEDs surround the perimeter of the house, there may be more collateral damage due to the drone dropping a bomb and the IED exploding. However, there is no intent to harm additional infrastructure or people.

In addition, if the explosion does not destroy the house and the team can infiltrate the home, they must consider humanity by not injuring any civilians or combatants who are injured and cannot defend themselves. The team could request a psychological operations team to speak with civilians in the surrounding area to ensure that there are fewer civilian deaths.<sup>203</sup> Distinction goes together with humanity, ensuring the team distinguishes civilians from combatants and does not injure them. Lastly, the team will respect all civilians and combatants through honor.

## 2. COA 2: The Innocents

Intelligence does not show any obstacles to accessing the home via drone, but it does show that there are innocent women and children in the house. The special operations team can use the handheld drone and attach a weapon with a small blast radius. Using weapons that do not have a large blast radius, the team considers humanity and proportionality. There is a higher chance for less collateral damage due to the choice of weapon and use of less force. Before the drone operator fires on any target, he will ensure that he is distinguishing between civilians and combatants.

## 3. COA 3: The Ideal Situation

In an ideal world, the special operations team will be able to identify that the target is alone and that there are no obstacles to destroy beforehand. This is the ideal situation because the team would not have to go in to neutralize the target. They can remain hidden and attach a weapon with a small blast

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<sup>203</sup> See *Psychological Operations*, U.S. ARMY, <https://www.goarmy.com/careers-and-jobs/specialty-careers/special-ops/psychological-operations> [<https://perma.cc/5T29-MZJE>] (last visited Feb. 16, 2025).

radius or a similar weapon to the drone, ensuring proportionality and letting their drone operator do the work. Before eliminating the target, the team needs to ensure they have adequately identified and distinguished the target to ensure the wrong person is not neutralized.

#### 4. COA 4: The Surrender

In determining the team can use the handheld drone with a shotgun attached while considering proportionality, they send the drone in to neutralize the target and security forces who are ready for a fight. The team's drone operator clearly distinguishes the civilians from the target and combatant in the home, using the lowest amount of force, taking humanity into account. However, what if, the target and enemy combatants raise their hands in surrender just before the drone operator presses the big red button?

If an enemy combatant surrenders, their surrender must be genuine, clear, and unconditional, and the other party must accept the surrender.<sup>204</sup> Back to Ukraine's surrendering program, if a Russian soldier surrenders outside of combat, it would be easier to tell if they are truly surrendering. If the soldier carries his or her weapon all the way back to the surrendering camp, there is no way for the operator to know if the soldier's surrender is clear and genuine. On the other hand, one could argue that if the soldier puts down his or her weapon and has no means of fighting back, it would be more reasonable to accept that surrender.

In our hypothetical situation, if the target has surrendered to the drone by putting down his weapon and raising his hands, the drone operator would, in theory, be able to tell that the surrender is clear and genuine. Since there is no other fighting happening, the operator and commander would have to accept the surrender. However, the special operations team would likely bring in the autonomous surrendering drone that is programmed to lead those who have surrendered to a safe location without engaging or provoking the targets.

The importance of these hypotheticals is to show the legal process of determining if missions are legal, moral, and ethical. While not every mission unravels the way it was initially intended,<sup>205</sup> the U.S. is extremely methodical when it comes to ensuring missions and weapons follow the law of war.

### *C. Rules of Engagement*

Rules of Engagement are updated based on the theater's evolving mission set. Over the years, as different enemies have evolved, military leaders,

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<sup>204</sup> LAW OF WAR MANUAL, *supra* note 125, § 5.9.3.

<sup>205</sup> Savage, *supra* note 173.

including U.S. presidents and secretaries of defense, have had to reassess the changing battlefields. As we have seen with the rapid development of drones, even within the last year in Russia and Ukraine,<sup>206</sup> it is only a matter of time before more countries add drones to their arsenals. To get ahead of this, all ROEs should be updated to reflect drone warfare, even in theaters without that current threat. This is one way the U.S. can get ahead of the rapid development of drone technology because there will already be safeguards in place to attack and defend against drones.

#### IV. RESOLUTION

War is ever-changing, and the U.S. should be at the forefront of rapidly evolving drone technology. The U.S. military should update all ROEs to reflect scenarios and authorization for drone employment. In addition, the U.S. should spearhead the development of a protected class of surrendering drones, leading to major nations following suit, for it to become customary law.

##### *A. Model Rules of Engagement*

While ROEs are classified and are dependent on each theater, seeing how quickly Russia and Ukraine are developing drones, every theater's ROEs should include protocols on how to combat drone warfare. In addition, each platoon leader, team leader, and commander with a drone operator on their team needs to be well-versed in how that drone functions to give legal and ethical commands.

Providing consistent ROEs that define service members' engagement with drones allows for more autonomy at the lower levels of command, which by design, allows for more strategic and legally acceptable outcomes. Some actions need to happen quickly due to rapidly changing intelligence. If small teams with only company commanders are on the ground and need to wait for approval from senior-level commanders, this could result in more casualties or mission failure.<sup>207</sup> The following proposed ROE is for small to medium-sized drones.

##### *Standing Rules of Engagement for Drone Warfare*<sup>208</sup>

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<sup>206</sup> See *supra* Section I.B.1.

<sup>207</sup> Michael Piellusch & Tom Galvin, *Is the "Chain of Command" Still Meaningful?*, WAR ROOM (Sep. 6, 2018), <https://warroom.armywarcollege.edu/articles/chain-of-command/> [https://perma.cc/UTK6-DLLA].

<sup>208</sup> See *generally* *Military Units: Army*, U.S. DEP'T OF DEF., <https://www.defense.gov/Multimedia/Experience/Military-Units/Army/> [https://perma.cc/K2SP-

*With prior intelligence, U.S. forces may employ their drones to destroy property or neutralize targets in self-defense or to accomplish the mission. If collateral damage has been assessed prior to the onset of the mission, no further authorization is required to deploy drones. However, through surveillance, if additional collateral damage will occur due to the deployment of the drone, the Brigade Commander must authorize the drone deployment.*

*Using drones to identify status or conduct-based targets and immediately engage, with proper identification, is authorized at the Brigade level. The Brigade Commander can further delegate to Battalion Commanders.*

*Drone deployment to neutralize an enemy with no collateral damage is authorized at the Battalion level. Battalion Commanders can further delegate to Company Commanders.*

*The use of drones to identify targets or aid in identifying U.S. troops for search and rescue missions is authorized at the Battalion level. Battalion Commanders can further delegate to Company Commanders.*

*Drone deployment to destroy U.S. equipment in fear of compromise is authorized. The authority is held at the Division level and is not delegable.*

*Drone operators are authorized to eliminate other combatant-swarming drones or drones with weapons if no counter-UAS (cUAS) are available or those cUAS are overwhelmed. This authorization is held at the Corps level and delegable to the Division level.*

#### *B. Autonomous Surrendering Drones and Applying IHL Principles*

Finesse is required in the application of IHL principles to the use of autonomous drones. As it stands, the distinction principle applies to humans and not weapons.<sup>209</sup> If the U.S. is to develop an autonomous drone that accepts surrender, technology must meet the standard to ensure the drone can understand when a surrender is clear and genuine. The first step should be to create an autonomous drone whose mission is to guide combatants who have surrendered to safety. These autonomous drones should be marked, akin to hospital transports. If these drones are used consistently enough, demanding

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<sup>7</sup>SKX] (last visited Nov. 24, 2025) (providing more details about the U.S. Army Command Structure to understand the different delegation levels for the proposed ROEs).

<sup>209</sup> LAW OF WAR MANUAL, *supra* note 125, § 6.5.9.3.

respect under the honor and humanity principles of the law of war, they will eventually become common practice. The U.S. should spearhead this initiative and encourage other countries to follow suit, in the attempt to create CIL as it pertains to autonomous surrendering drones. This will lessen the number of boots on the ground, keeping more troops safe. A subsection of ROEs should also include autonomous drones for surrender.

### ***Standing Rules of Engagement for Autonomous Drones for Surrendering***

*Through intelligence, if it has been determined that an enemy combatant wishes to surrender, an autonomous drone used for surrender is authorized. This authorization is held at the Division level and is delegable to the Brigade level.*

## V. CONCLUSION

Even now, we must be ready to face the unexpected to protect our service members and innocent civilians. As seen during Hamas's attack in Israel<sup>210</sup> and the attack on a residential building in Russia,<sup>211</sup> the law of war principles are not always followed. Although drones are not used by every nation state, looking at the rapid development in Russia and Ukraine, any country could follow suit. ROEs should be updated to ensure the U.S. is prepared for an unexpected drone attack and has proper rules in place. In addition, autonomous drones that accept surrender should become a legally protected class. The U.S. should spearhead this initiative, encouraging other nations to follow suit to become indoctrinated into CIL. If more drones are on the battlefield, there should be fewer civilian and military casualties. The United States, as the world's leading military authority, must set the standard for the legal implications of the quickly developing world of drone technology.

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<sup>210</sup> Estrin, *supra* note 65.

<sup>211</sup> *Video: Buildings Hit by 9/11-Style Drone Attack in Russia*, NDTV WORLD (Dec. 21, 2024, at 17:27 IST), <https://www.ndtv.com/world-news/russia-ukraine-war-buildings-hit-by-9-11-style-drone-attack-in-russia-7301116> [https://perma.cc/Z4SG-TF9P].