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Senate Judiciary Sub-Committee on The Constitution, Civil Rights and Human Rights
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Mr. Chairman and Members of the Sub-Committee, thank you for the opportunity to testify before you today on this important issue. My testimony today is based on my military experience with targeting procedures, remotely piloted aircraft (commonly referred to as drones) and national security expertise. As the Chief of Current Operations at United States Africa Command from July 2007-April 2010, I led the planning and execution oversight for targeting operations in Africa. I have also worked with remotely piloted aircraft as an A-10 Squadron Commander in Afghanistan and while serving in various roles at the Air Operations Center for operations in Iraq and Afghanistan. I was on the leadership team in the Air Operations Center in Saudi Arabia when we first used an MQ-1 Predator for intelligence, surveillance and reconnaissance (ISR) in Iraq and also when a Predator was first employed to conduct a strike with a Hellfire missile in Afghanistan after 9/11. As an A-10 Squadron Commander in Afghanistan, my unit supported special operations forces conducting counter-terrorism missions in the theater.

Throughout my military career, I also participated in efforts to improve our joint Time Sensitive Targeting (TST) processes and capabilities in order to shorten the time from "sensor to shooter" while increasing effectiveness and minimizing collateral damage. As a former Professor of National Security Studies at the George C. Marshall Center, I lectured and taught on a variety of national and international security topics including counter-terrorism, Afghanistan, counter-insurgency, and stability operations.

Since this hearing is unclassified and I am now retired, I will speak in generalities at the unclassified level. I would encourage the Sub-Committee Members to seek classified briefings from the Pentagon and Intelligence Agencies to gain more specifics on the targeting process. My testimony will focus on the targeting process within the military.

Terminology

The word "drone" has a connotation that might lead to misperceptions about its capabilities and operations. The military initially used the term Unmanned Aerial Vehicle (UAV) for its aircraft without pilots onboard, but that term did not fully capture the amount of personnel and systems involved in the operations and decision making process of a UAV mission. So the military expanded its terminology to Unmanned Aerial System (UAS). A UAS typically includes several aircraft and sensors, a ground control system (GCS), a satellite link, spare equipment, and

the operations and maintenance personnel for 24-hour operations. There is now a wide diversity of UAV/UAS platforms and systems used for civilian and military capabilities.

The military is now using the term Remotely Piloted Aircraft (RPA) for the types of UAVs that require a pilot to be actively flying the platform, but from a remote location. The MQ-1 Predator and MQ-9 Reaper are the two main RPAs used for targeted strikes. It takes over 200 operations and intelligence personnel to sustain an RPA like the Predator or Reaper in an orbit for 24 hours. A pilot flies the aircraft remotely and an operator controls the ISR sensor and weapons. The MQ-1 and MQ-9 RPAs are each also part of a larger UAS consisting of multiple RPAs with sensors, a GCS, satellite link and support equipment/personnel.

I will use the term RPA to refer to the unmanned aerial platforms used in targeted strikes for the remainder of my testimony.

RPA Capabilities

RPAs provide unprecedented intelligence and strike capability with persistence, precision, and oversight. RPAs can loiter overhead target areas around the clock and provide real-time infrared and electro-optical streaming video while remaining undetected in low threat environments. Once a decision to strike has been made and strike criteria have been met, RPAs provide the ability to have real-time intelligence and oversight with the capability to abort the strike at the last minute if conditions change. The AGM-114 laser guided Hellfire missile has a very small blast and fragmentation (frag) weapons footprint which minimizes collateral damage. The RPA also provides immediate post-strike assessment capability.

Three Questions

The questions and concerns about the use of RPAs as a vehicle for targeted strikes should be broken down into three main elements: legality; strategy; and platform selection. I will briefly address each of these and my remarks and expertise focus mainly on the third issue of platform selection.

1) Is it Legal?

Any use of force by a U.S. government agency must comply with the Constitution and other expressions of U.S. law as well as international law. In the case of targeted strikes with RPAs, the applicable law is the 2001

Authorization for the Use of Military Force (AUMF) along with the President's authority under Article II of the Constitution. The Law of Armed Conflict (LOAC) also applies to the use of force in military operations. LOAC is derived from international law, and military personnel are required to comply with LOAC, including the key principles of proportionality, necessity, distinction, and humanity in combat operations.

I will leave a detailed discussion on the legalities of targeted strikes with RPAs to the legal experts on the panel. However, I will say that in my experience, once a strategic legal analysis is made that use of force is legal and authorized, any use of force by the military in conventional combat or counter-terrorism operations also has a thorough and rigorous legal analysis throughout. The military Judge Advocate General (JAG) officers have always been right in the middle of the targeting process advising the planners and commanders to ensure any actions comply with domestic law and LOAC.

2) Is it good strategy?

Just because the use of force is legal, does not mean it is good policy or strategy to achieve national security or military objectives. Tom Wingfield, my colleague and a Professor of International Law at the Marshall Center stated it this way: "The world of legal options in wartime is surprisingly broad, but some legal options are counterproductive (losing hearts and minds, lawful but politically unacceptable levels of collateral damage, undercutting the host nation government's legitimacy and apparent effectiveness, etc.) and some are not. These are valid questions for military commanders and political officials to ask as they chose options from the long menu given them by the lawyers. You can be a dope long before you become a war criminal." (personal email from T. Wingfield to M. McSally on 2/7/13)

On many occasions, my team at U.S. Africa Command planned a strike against a target that was determined to be legal, but the strike was not conducted for a variety of strategy considerations. These considerations included evaluations of the impact of the strike on protecting vital national interests, impact on diplomatic relations, and risk of civilian casualties.

3) Which of many platforms should be used to conduct the mission?

Although not a purely linear process, once it is determined that a strike is legal and an appropriate strategy, the platform for conducting the strike must be considered and selected. The process is not purely linear because

sometimes a limitation on what platform is available and viable for use will result in a decision that the strike is not a wise or viable strategy, at least at that time.

Depending on the circumstances, there could be many platforms to choose from to conduct a strike. I will consider a fighter/bomber strike, sea-launched cruise missile, special operations "boots on the ground" kill/capture mission, ground launched mortar/artillery, and an RPA strike for this testimony.

a.) *Fighter/bomber strike:* In order to conduct a fighter bomber strike, actionable intelligence is required followed by the lead time required to plan, brief, and travel to/from the target area. A fighter/bomber strike would also potentially require diplomatic overflight clearances, air refueling support, ISR aircraft, and airborne command and control to provide real time updates, clearance to strike, and abort decisions. Munitions from fighters and bombers can be high-precision with low collateral damage. If there is no ISR asset overhead providing real-time intelligence, the final strike decision is made by the pilot in command. Therefore commanders, intelligence and legal experts are not in the final strike decision and abort process.

b.) *Sea-launched cruise missile:* A Tomahawk land attack missile (TLAM) can be launched from a naval ship for the strike. A TLAM strike requires the target be located within range of the missile as well as lead time to plan for specific coordinates. A TLAM has a larger weapons footprint than most fighter/bomber and RPA munitions, which is a collateral damage consideration. Some TLAM models cannot abort or change targets once launched so if the target moves or civilians move into the area, the strike cannot be aborted.

c.) *Boots on the ground:* Ground-based options, such as a special operations mission, involve sending in troops to capture/kill a target. These "boots on the ground" can provide flexibility and the ability to gain intelligence from the target and target area. The troops need to be deployed and ready to launch from an air, ground, or sea platform in relatively close proximity to the target area. This option is precise but takes lead time for deployment and planning, puts U.S. troops in harm's way, and has the potential for U.S. casualties. In addition, if the troops are obliged to fight their way to the target, or fight their way out, there is potential for civilian casualties as well.

d.) *Mortar/artillery:* If the U.S. has ground forces in range, theses platforms could be an option. In general, these platforms have the least precision (normal miss distances of from 250 to 1000 feet) so there is potential for not achieving the strike objective, as well as a greater risk of collateral damage.

e.) *RPA:* An RPA platform has the advantage that it is an ISR and strike platform and can loiter overhead around the clock to ensure all strike criteria are met, collateral damage is minimized (normal miss distances of less than 10 feet), and commanders have oversight of the targeting process throughout all phases. An RPA carries the AGM-114 Hellfire missile which is a precision weapon with a very small blast/frag footprint, minimizing civilian casualties. However, RPAs are vulnerable to a variety of relatively low-tech antiaircraft defenses, so they typically require a rather benign threat environment in order to operate effectively.

Once a decision has been made that it is legal and wise strategy to conduct a targeted strike, the RPA platform is usually the hands-down best choice to maximize precision, persistent intelligence, responsiveness, and oversight by commanders/intelligence experts/legal experts. It also has the benefit of minimizing civilian casualties at with risk of U.S. casualties and at relatively low cost.

Due to the time sensitive nature of actionable intelligence and the potential for the target and collateral damage circumstances to be fleeting, legal and strategy approval is desired in advance for a specific target with strict strike criteria required prior to weapons release. Using a variety of intelligence resources, it can take minutes, hours, days, weeks or longer to meet strike criteria. Further, favorable conditions often suddenly present themselves. Therefore, a fighter/bomber strike is often impractical for targeted strikes due to the additional lead time required for planning, asset deployment, and overflight clearances. It is also impractical and cost-prohibitive to have fighters/bombers in 24 hour orbits waiting for strike criteria to be met. This option was appropriate and utilized during the height of the early days of conflict in Afghanistan and Iraq, where we executed previously developed and approved TST processes to divert aircraft already airborne from one target to another or had assets on alert able to respond quickly.

Similarly, a boots on the ground capture/kill mission could be impractical due to the requirements and time for the assets to deploy and remain on alert for potentially long periods of time waiting for strike criteria to be met. The risk of U.S. casualties and civilian casualties and the diplomatic/strategic implications of the presence

of ground forces make this option often undesirable unless the target is of extraordinary value (for example UBL) or ideal operational and intelligence circumstances exist.

TLAMs have been used for targeted strikes with minimal effectiveness due to the risk of the target moving during the lead time required for planning and flight time of the missile. Mortar or artillery strikes are not practical in current areas that targeted strikes are conducted since assets are normally not deployed within range.

Targeting Process

Once the legal and strategy assessment decisions have been made to approve a target, the targeting process in conventional air and space operations is summarized into six often overlapping steps: find, fix, track, target, engage, and assess (F2T2EA). Special operations forces use a similar six step process: find, fix, finish, exploit, analyze, and disseminate (F3EAD). I will briefly discuss the special operations process steps of find, fix, finish at the unclassified level. The entire process is incredibly meticulous with extraordinary levels of analysis and oversight.

I will not address the process of how a particular individual is approved for placement on a targeting list based on intelligence analysis of his/her role in Al-Qaeda and its affiliates. I encourage Sub-Committee members to obtain classified briefings from Intelligence Agencies on that process.

Prior to any targeted strike, days, weeks, months, and sometimes years of intelligence gathering and assessment are conducted in order to lay the groundwork for the "find" phase. This phase includes using all sources of intelligence including human intelligence (HUMINT), image intelligence (IMINT), and signals intelligence (SIGINT). It often takes the dedication and focus of limited airborne and space based ISR assets to geographically locate the target.

The "fix" phase of the targeting process is a very thorough process with a high degree of oversight. This phase includes: positively identifying the target; geographically locating the target with a high degree of certainty; platform selection (based on considerations mentioned earlier plus required weapons effects); deconfliction between friendly forces and assets to avoid fratricide; airspace clearance; collateral damage assessment; and legal assessment.

As the higher level legal and strategy assessment is going on, the process often transitions fluidly from the "find" to the "fix" phase and back again.

Once criteria have been met and strike approval is granted, the "finish" phase commences and the platform selected is given orders to conduct the strike.

If an RPA is the platform of choice, the time between strike approval and weapons release is minimal, maximizing the opportunity to reach the desired effect. The RPA is normally loitering overhead and providing real-time monitoring of the target. Unlike other platforms, the RPA platform enables commanders, analysts, and legal experts to monitor the target area in all phases of the targeting process with the ability to abort the strike if the target moves or civilians enter the area. This oversight is unprecedented. As a comparison, during a close air support mission in Afghanistan with A-10s from my squadron, rules of engagement were set and final decisions on weapons release were left with the enlisted ground controller supported by the Lieutenant or Captain pilot above, both of which are under stress due to the complexity and danger of combat situations.

For targeted strikes of fleeting targets in low air defense threat environments, an RPA is the best platform to choose to ensure precision, persistence, flexibility, and minimize civilian casualties.

Asymmetrical Advantage and Enemy Information Operations

Some have criticized the use of "drones" as too easy a way to deliver firepower without risk to American lives. I will conclude with some recently published thoughts by retired Air Force Lieutenant General David Deptula, a brilliant national security and military strategist and the first general to oversee ISR in the USAF, including RPA/UAV/UAS development.

> A significant advantage of RPA is that they allow us to project power without projecting vulnerability-something that can't be done when ground forces are put in harm's way. This capability provides us with an asymmetric advantage that our adversaries find difficult to counter. Because RPA are so effective, our enemies try to manipulate us to do what they cannot -- limit the use of one of our asymmetric advantages -- by spreading falsehoods that "drones" cause reckless collateral damage or are somehow not accurate.
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> The fact of the matter is that "drones" are one of, if not *the* most accurate means of employing significant force in our military arsenal. Airpower, in the form of RPA, is the one allied capability that the Taliban in Afghanistan, Al Qaeda in Pakistan, Yemen, and around the globe cannot defeat directly. By creating international focus on civilian casualties, and attributing those casualties to "drones" vice the biggest cause of those casualties-themselves, they create political and societal pressure to limit the use of "drones." Adversary falsehoods regarding inaccuracy and collateral damage divert attention from the fact that the massive intentional damage, intentional killing of civilians, and intentional violations of international law are being conducted

by Al Qaeda and the Taliban - not U.S. "drones." (http://defense.aol.com/2013/02/15/retired-gen-deputula-drones-best-weapons-weve-got-for-accurac/)

Thank you again, Mr. Chairman and Members of the Subcommittee, for the opportunity to testify before you today. I look forward to your questions and discussion.