

**CORRECTIONS SPECIAL OPERATIONS:
TO BOLDLY GO INTO THE FUTURE**

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The Command College Futures Study Project is a FUTURES study of a particular emerging issue of relevance to law enforcement. Its purpose is NOT to predict the future; rather, to project a variety of possible scenarios useful for strategic planning in anticipation of the emerging landscape facing policing organizations.

This journal article was created using the futures forecasting process of Command College and its outcomes. Defining the future differs from analyzing the past, because it has not yet happened. In this article, methodologies have been used to discern useful alternatives to enhance the success of planners and leaders in their response to a range of possible future environments.

Managing the future means influencing it—creating, constraining and adapting to emerging trends and events in a way that optimizes the opportunities and minimizes the threats of relevance to the profession.

The views and conclusions expressed in the Command College Futures Project and journal article are those of the author, and are not necessarily those of the CA Commission on Peace Officer Standards and Training (POST).

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A LOOK INTO THE FUTURE

The year is 2020, and unrest has broken out in an open compound at a minimum security correctional facility where 500 inmates are protesting over what they feel are a violation of their civil rights. Facility personnel can't contain the protesting inmates within their respective housing units. The Commander of the Corrections Special Operations Group (SOG) is in the Command Post and has assumed the position of Incident Commander. He has strategically deployed four squads at various locations around the compound. Here we pick up our story:

"Commander" the voice of Executive Officer came over the com channel. "Go ahead" the commander replied. "Delta Team reports the perimeter is secure and they are standing by" the XO said. "Roger that" replied the Commander.

The SOG Commander checked the holographic view port in front of him labeled "Delta Team" and confirmed each operator was in place. Each Delta Team Operator carried a non-lethal weapons system called "Vulcan." Vulcan isn't the weapon's real name, but that's what the operators like to call it. The predecessor of the Vulcan was released as a non-lethal focused energy weapons system for the military in 2010 under the project name: Active Denial System (ADS). Along with other less-lethal weapons systems, the Holdum County Sheriff's Office SOG team utilizes two versions of ADS; the Vulcan, and the Apollo. The Vulcan is a handheld, self contained ADS weapon about the size of the old Remington 870 shotgun. Living up to its mythological namesake, the Vulcan focuses low intensity millimeter waves at a subject, causing the subject to feel

intense heat, like being on fire, and retreat away from the operator. The Vulcan is deployed for close quarter operations and maintaining perimeter security.

The Apollo works on the same premise as the Vulcan, except that it is designed for larger applications. It is about the size of a TV antenna dish and mounted on a tripod. It is connected to an external portable power source through an umbilical. It takes two operators to deploy. One operator is responsible for target acquisition and weapons deployment, and the second operator is responsible for monitoring capacitor efficiency and power consumption. It's portable design and increased power output makes the Apollo perfect for repelling multiple subjects up to a distance of a half mile away.

The Executive Officer (XO) was positioned on the roof of the dining hall overlooking the compound where the rioting inmates were gathered. Adjacent to the XO two operators were standing by ready to deploy the Apollo.

The SOG Commander looked at his watch. The time was 2331. The Commander contacted the XO and said, "XO, are all the squads in place and ready?" The XO responded, "Roger that Sir. All squads are in place and standing by for your orders to commence." The Commander verified that medical assistance was standing by, and stated, "10-4, you may commence operations."

On command the XO activated the portable Magnetic Audio Device (MAD) and began to play prerecorded directions to the rioting inmates telling them to return to their barracks. The command was played on a continuous loop. The older inmates that wanted no part of what was to come turned and walked back to their barracks. After one full minute, inmates not wanting to be part of the demonstration left the compound area. Approximately 50 of the younger inmates felt they had something to prove and began to

advance toward the dining hall. The XO gave the order for the Apollo team to repel the inmates. Simultaneously the XO changed the prerecorded message ordering all inmates to lay face down on the ground and place their hands behind their backs.

Without delay the Apollo team targeted the group of advancing inmates, and deployed a three second burst. The advancing inmates immediately stopped and began to retreat out of the way of the invisible beam. As soon as the Apollo stopped emitting the heat ray, its burning affect immediately ceased. Not wishing to feel another dose of the sun's scorching heat, the rioting inmates immediately laid face down on the ground and place their hands behind their backs. Three squads entered the Honor Farm compound from different directions and secured the prone inmates. When the last inmate was placed in restraints the Commander checked his watch. The time was 2340.

THE PRESENT

Far-fetched? Not really. Like the weapons appearing on Star Trek a generation ago, the Active Denial System as used for our SOG team of the not so distant future exists today. Very soon it will be in use by the US military overseas, and researchers are already at work to make it more portable for possible future use by Corrections Special Operation units in correctional facilities and jails nationwide. On the pages that follow, we will look at the development of Corrections Special Operations, the tools they use today, and the possible addition to their less-lethal arsenal that will emerge in the next few years: "Active Denial Systems."

A LOOK BACK ON CORRECTIONS SPECIAL OPERATIONS

TEAMS:

As the old saying goes, "to know where we're going, we need to know where we've been." This is particularly true if we want to avoid the mistakes of the past. Research for the history of Corrections Special Operations, though, is sketchy. There is no historical chronology to which one can refer to pinpoint the inception of corrections special operation teams. There are as many opinions as there are those who attempt to memorialize this subject in writing.

Joseph Garcia from US Corrections – Special Operation Group, (interview, STL. Garcia, July 1, 2008), says the term “Corrections Special Operations” is a relatively new term that wasn't used prior to the past five years. In fact, the inception of modern Corrections Special Operations may very well date back 50 to 60 years with corrections teams commonly referred to as "goon squads." By today's standards, these early teams were crude variations of today's Corrections Special Operations Teams. Typically, they were comprised of Correctional Officers who were big and strong. The squad was generally used to break up inmate insurrections and control violent offenders on an ad hoc basis. Little or no training was provided to these officers, and safety equipment was minimal.

This philosophy continued to a pivotal turning point in the history of American correctional institutions. On September 13, 1971, then-New York State Governor Nelson Rockefeller called on State Police to quell a riot that had broken out at the Attica State Penitentiary five days earlier. Inmates began the riot over issues of mistreatment and poor living conditions; after five days of failed negotiations, Governor Rockefeller felt it

was time to take the facility back by force. The State Police were not equipped to handle an incident of this nature. During the process of taking back the facility, they deployed lethal force, killing 10 hostages (staff) and 29 inmates. In the aftermath of the riot, Rockefeller publicly stated that the state police did a "superb job." An investigative commission, however, found "that the operation had been ill-conceived, poorly executed and probably unnecessary" (American Experience, People & Events: Attica Prison Riot, www.pbs.org/wgbh/amex/Rockefellers/peopleevents/e_attica.html, 9/13/1971).

The riot at Attica was an eye opener, not only for the general public, but also for the corrections industry. Corrections professionals began to realize there was a need for specialized equipment to deal with inmate riots and hostage rescue situations. The logical solution was to create small groups of highly trained operators who could resolve unsafe situations in a safe and professional manner. Little progress was made, though, in the development of specialized equipment or staff training until the 1980s.

A deputy sheriff who writes under the pen name "Dominique," for the web site "www.militaryphotos.net," documents the first formal Special Operations Response Team (SORT) at the United States Penitentiary in Leavenworth, Kansas in 1982. The SORT team was formed by volunteer officers as a response to the increasing level of violence by inmates. Because of the increasing level of sophistication of inmates and violence displayed towards staff, many county jail systems across the United States have followed suit.

Arthur Nardi, a Deputy Sheriff and 17 year veteran of the Broward County Sheriff's Office in Florida, puts it in perspective this way, "as long as there are people incarcerated, there will be a need for corrections officers. Inmates are going to become

violent. Knowing this risk, there will always be a need for specialized CERT personnel to handle these situations as they arise. Not only are they protecting staff and other inmates, they are protecting citizens."(CERT to the rescue, Arthur Nardi, www.corrections.com/news/articlie?articled=16253, 7/23/07)

Because of the need to protect staff, inmates, and citizens, corrections special operations teams will continue to be implemented in correctional facilities that don't have them. They will go by various names such as: Custody Emergency Response Team (CERT), Special Operations Group (SOG), Special Operations Unit (SOU), Special Emergency Response Team (SERT), Special Operations Response Team (SORT), and Corrections Response Team (CRT). Their name will be a reflection of the type of service they provide. They may go by different names, but they all will have the same goal; to rescue the facility in which they operate from peril.

TACTICAL RESPONSE

There are a wide variety of tactics and weapons used to deal with problems that arise when people are incarcerated. Generally, the tactics and weapons vary with a team's mission capability, which is influenced by various factors. These factors are: the security level of the inmate being housed (i.e. sophistication of inmate, low risk to high threat), the design of the correctional facility (i.e. minimum security, maximum security, open camps, single story, multi-level high rise, etc...) and the directives established by facility executive staff (i.e. lethal / less lethal). Whether a tactical team operates in a local county jail, a state prison, or a federal penitentiary, most teams fall under one of two disciplines; 1) lethal with less lethal capabilities; or 2) strictly less lethal.

While tactics and technological advancement of weapons used in correctional facilities have progressed over the last 50 to 60 years, significant advances have only taken place since the 1980s. Prior to the Attica incident in 1971, tactics used by corrections response personnel were borrowed from field operations training such as civil disobedience (riot control), and hostage rescue. Weapons were little more than military flak jackets, police helmets, saps, and a straight baton. After the Attica prison riot, technological advances in weapons allowed correctional facilities to incorporate chemical agents such as CS (chlorobenzylidene malononitrile), CN (Alphachloroacetaphenone) into their inventories. Technological advances also saw the emergence of systems such as the 37 mm gas gun (designed to not only deploy chemical agents, but also kinetic energy rounds such as wood baton, foam baton, and beanbags).

In the 1980s, correctional facilities began to develop teams around tactical operations, rather than the “goon squad” mentality (STL. Garcia, 2008). During that time, various weapon systems were introduced. On the lethal side, weapons systems such as .38 caliber pistols, CAR-15 5.56mm rifles, 9 mm HK MP5 SMGs and the Ruger Mini 14 rifle found their way into use. On the less lethal side, weapon systems such as aerosol dispersers, pyrotechnic grenades, 12 gauge beanbag rounds, the pepper ball OC delivery system, the TASER, and the SAGE SL-6 37mm were amongst the weapon systems being used.

As it goes with the development of weapons systems, one constant always seems to remain true: tactics develop considerably slower than the weapon systems being deployed. This can be seen with the weapon systems developed between the Revolutionary War and the Civil War, and continuing through modern times. The Law

Enforcement/Corrections industry is no different in this respect. During the 1980s and early 1990s, as equipment and weapon systems began to change, tactics of the time were slow to recognize the capabilities of the newer weapon systems. At times, this resulted in injuries to staff and inmates.

In 1996, an industry leader, the United States Corrections-Special Operations Group (US C-SOG) began to realize there had to be a better way to apply tactics and technology in a way that suited the corrections industry. Corrections special operations are supposed to be an “insurance policy” to prevent harm, and not a liability to their agency. US C-SOG broke new ground by setting industry standards and seeking out new technologies. By 1997, they developed small unit tactics designed around weapon capabilities, and established criteria for the selection and training of tactical operators (interview, STL. Garcia, 2008).

MOVING BOLDLY TO THE FUTURE

So the obvious question is; where are corrections special operations going in the future, and what types of weapons will they use? There will always be specific circumstances where an agency must deploy lethal force. The trend, however, both at the military level and in law enforcement, is to seek out less lethal alternatives to deal with subjects during certain types of incidents. This trend gains importance when one considers the mission of a lethal tactical team versus a less lethal tactical team.

The mission of a lethal tactical team is to "eliminate the lethal threat" as a last resort when all negotiation and non-lethal methods fail to control the subject or resolve the situation. The mission of a less lethal tactical team is to stop a threat without the loss of human life, and return the situation back to normal as safely and expeditiously as

possible. This philosophy is extremely important inside of correctional facilities when designing a tactical response for situations where the subject is not supposed to have the capability of presenting a lethal threat.

There are numerous less lethal weapon systems in use today that will aid in moving corrections special operations into the future. Weapons such as the FN 303, and Taser X-26, are already going through technological changes to take these systems to the next level. Weapon systems such as the 37 mm, 40 mm direct impact, and the OC pepper ball gun will probably find their way into the "history books" and make a nice static display in an agencies museum. There are also emerging less lethal weapon systems that are currently in their infancy of development, but have the potential to make a positive contribution to corrections special operations in the future. Amongst these is an emerging technology; an "Active Denial System" using directed energy to suppress hostile activity quickly and completely without injury.

ACTIVE DENIAL SYSTEM – NOW AND THE FUTURE

The Active Denial System is currently under development for military use by Raytheon Corp. in Tucson AZ. It is being developed as a non-lethal deterrent system, using focused energy at one or more subjects to repel their advance without causing injury. When thinking of the current military version of the Active Denial System, picture a satellite type dish mounted on top of a Hummer, which emanates millimeter waves (heat rays) using an antenna to direct a focused, invisible beam toward a designated subject. The 100,000-watt beam, traveling at the speed of light, strikes the subject without being seen or heard. When the target gets in the path of this less lethal device, they can definitely feel its uncomfortable effects.

The ADS is “tuned to a precise frequency to stimulate human nerve endings. It can throw a wave of agony nearly half a mile” (Michaela Hanlon, UK Daily Mail, Sept 19, 2007). When the operator aims the dish, using a joy stick similar to that found in fighter jets, and depresses the trigger; the ADS system deploys a powerful 95 GHz millimeter wave measuring 129.2°F. The wave makes contact with the subject and is absorbed in the top 1/64th inch of the skin (equivalent to three sheets of paper). The millimeter wave rapidly heats the water molecules in the skin, causing the subject to feel like they are “on fire.” The only escape from the intense heat is to simply get out of the beam’s path. There are no immobilizing effects associated with ADS. According to Richard Lardner, “The immediate and natural reaction is to get out of the way. And you do” (Lardner, Richard. "How the Energy beam weapon feels." USA Today. 29 Aug. 2007. 02 July 2008 <http://www.usatoday.com/news/washington/2007-08-29-704058744_x.htm>). Thus far, although it has yet to be deployed in actual combat, ADS has the potential to be an effective non-lethal weapon that doesn't have any permanent side effects.

Raytheon has already taken steps to downsize the military version of the ADS system. The smaller version is called “The Silent Guardian.” “The Silent Guardian is a square transmitter the size of a big plasma TV and is mounted on the back of a Jeep. Silent Guardian is intended to be the 21st century equivalent of tear gas or water cannon – a way of getting crowds to “disperse quickly with minimum harm.” (Michael Hanlon, UK Daily Mail, 9/19/07). Raytheon says the Silent Guardian can operate across a broad range of scenarios; from maritime to desert environments. The Silent Guardian is capable of surviving multiple bullet strikes with minimal performance loss.

Jack Gillum at www.azstarnet.com reports the Los Angeles County Sheriff's Department (LASD) has taken an interest in the ADS; spurred by an increase in violence in the County's jail system. LASD Commander Sid Heal "...is looking to new 'directed – energy' technology... as a possible addition to his department's arsenal against unruly inmates" (Police agencies look to Raytheon weapon, *Jack Gillum*, Arizona Daily Star 12/09/07). The LASD is so interested in the ADS; they have already invested \$3 million to have Raytheon build a prototype.

ISSUES FOR LAW ENFORCEMENT AND ADS

While at first glance the ADS seems to hold great promise for law enforcement agencies dealing with unruly crowds or individuals, it is not without its problems. One of the beauties of the ADS is that it can be used at distances up to a mile away and still be effective. While this range is great for military applications, "the current system... has too long a range, has harsh power requirements, and is too big for most law enforcement applications" (e-mail interview, Sid Heal, 7/13/08). The Human Effects Advisory Panel (HEAP) conducted substantial testing on the effects of millimeter waves on the human body. They concluded that "the ADS is a non-lethal weapon that has a high probability of effectiveness with a low probability of injury" (Penn State Applied Research Laboratory report, 2/11/08). Corrections Special Operations tactical teams, though, generally engage inmates at a distance from 3 feet to 10 feet inside jail cells, and up to about 25 feet in day rooms. The distance can increase to a span of 50 to 100 yards in open compound facilities. The question remains: would a smaller version of ADS be safe to use in close quarters?

Another concern with the ADS is size. The current military version and the Silent Guardian version are much too bulky for efficient general law enforcement deployment. The LASD prototype (identified as "Project Sheriff") is smaller and would be more efficient for general law enforcement deployment, but is still too large for close quarter tactics in corrections settings. (New Active Denial System=Next iPod?, David Hambling, blog.wired.com, 9/13,07). ADS will need to be scaled down significantly to be efficient for tactical deployment. Designing various models or versions of ADS as the technology matures will allow agencies to select the appropriate model for their needs. Scaling down the size of the dish so that it can be mounted on a small tripod, or carried by hand, would enable one operator to transport the device and easily set it up for deployment. The ADS power generating unit must also be scaled down to fit into a backpack or similar device so one operator could carry both the ADS and its power system. Scaling the Active Denial System to the aforementioned size would allow the device to be deployed for inmate insurrections, in open spaces such as day rooms, and open compound facilities. An even smaller fully self-contained handheld version would allow for tactical deployment in close quarter situations.

One of the biggest hurdles the Active Denial System would have to get over is the public perception that ADS is a device of torture. When lethal force is deployed on a subject, the threat is over. However, with less lethal systems, once the weapon has been deployed, the threat can continue unless the subject gives up. If the subject does not give up, the less lethal weapon is redeployed. How many times can the ADS be deployed, and/or in what situations should ADS be used so as to not cross the public's perceived line of torture?

HURDLES TO OVERCOME

While the public does not directly decide what weapon systems law enforcement uses, media exposure and public perception can indirectly influence an agency's procurement decisions. The ADS has already generated its share of public concern.

Richard Hunter, a critic of ADS, graphically expresses his concern by asking:

... "but what happens if the people faced with such a weapon can't just run away?

What happens if they're trapped in a crowd, and the crowd can't move? How much pain must that crowd endure? How long can any member of the crowd be exposed to that weapon before his or her skin-or their eyes-simply cook off?

What happens if the devices are used deliberately in a manner designed to cause maximum harm-say, by training the device on prisoners trapped in prison cells until they literally go mad with pain? What happens if the system operator turns up the power? A little bit works well, why not try a lot? What happens if the scientists didn't test the device thoroughly, and they turn out to render anyone touched by them blind, or impotent, or sterile?" (The Holy Grail of Crowd Control, Richard Hunter, twelthbough.blogspot.com, 5/30/2008).

Although these questions represent a lack of trust by some regarding the professional standards and ethics of those who deploy such weapons systems, these types of concerns must be mitigated if Law Enforcement is to use ADS. This can be achieved if the law enforcement industry takes a proactive approach to shape public opinion about ADS. According to Commander Sid Heal "we (Law Enforcement) need to be proactive in explaining all aspects (of ADS), which is the reason why we don't turn down offers to explain it to the media" (e-mail interview, Sid Heal, 7/13/08). Heal's comment

exemplifies our opportunity to shape public perception before they develop a mindset against ADS. Additionally, the development of departmental policies and procedures to define when and where ADS can be deployed, on whom ADS can be used, the number of times ADS can be used on a subject(s), and the duration of the exposure can help alleviate public concerns. Most importantly, criteria must be developed, supported by scientific and medical data that sets parameters for the use of ADS and other emerging non-lethal and less-lethal weapons systems used by law enforcement.

CONCLUSION

Corrections Special Operations is still in its infancy. Due to growing inmate sophistication and the violence being perpetrated by inmates, more and more jails and prison systems will institute new Corrections Special Operation Teams in the coming years. Weapons and tactics used by early response teams would be considered crude by today's standards. However, only in the last 10 years have advances in weapons systems and close quarter tactics made for a safer, more effective and efficient delivery of force.

As the trend towards less lethal force options continues to grow, various emerging technologies such as the Active Denial System would help to fulfill this need. Though current ADS technology makes it impractical for today's law enforcement professionals, interest in ADS by the Los Angeles County Sheriff's Department has prompted researchers to work toward a version more suited for use in corrections special operations.

More interest from the corrections industry is needed to make ADS a reality. Be warned, the Active Denial System will never be a "one-stop-shop" weapons system for all possible corrections inmate issues. To think of it as such would create an unrealistic

expectation of its capabilities. If Raytheon sees the value, however, and makes a version for Law Enforcement use, Corrections Special Operations will one day have a system suitable for their use. Preparing now for that day is our first order of business.