

Drones: Implications for Corrections Transcript

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Hello and welcome to Drones, Implications for Corrections. My name is Marybeth and I will be in the background answering any WebEx technical questions. If you experience technical difficulty at any time during this event please submit your issue in the chat panel and I will assist you. You may also contact WebEx technical support at (866)779-3239. All attendees will be in a listen only mode throughout the duration of today's call. As a reminder today's call is being recorded. To ask a question in the chat simply click on the chat bubble at the top right-hand side of your screen and the panel open. Typing your question and send it to all participants.

We will have a series of poll questions today that will show up on the right-side of your screen during the webinar. Please take a moment to participate and answer the questions. I would now like to introduce your first speaker for today, Jeffrey Hadnot, chief NIC Academy division. Jeff, you now have the floor.

Thank you Mary Beth. Welcome to the national Institute of corrections 2016 virtual conference leading with integration. Today I will be co-moderating the session with Anne Malone from see squared technologies. Presenting today we will have a panel for you and the first panel speaker will be Casey King. He is a master a structure at the unmanned safety Institute providing subject matter expertise to public safety organizations run the country and has been flying remote-controlled aircraft, helicopters and unmanned aircraft systems for five years. The second panelist will be Jim Deater, Jim is a 26-year veteran of the Maryland State police, 17 of which is spent in the homeland security intelligence Bureau. The third panelist will be Jonathan Rupprecht comment droned analyst is with political and PR market watch, the independent motherboard in many other sources of cited or quoted Jonathan Rupprecht who was a drone lawyer and a commercial pilot with the single engine, multiengine and instrument ratings. If you have questions during today's presentation please type them in the chat panel. At the conclusion of the presentation, Anne and I will collect those questions and pose them to the panel. I'll now turn the time over to Casey King. We hope you enjoy this session.

Great, thank you. Good morning. Thank you for having me. I went to get started in tell you a little bit about myself. I'm also a detective with the Sarasota County Sheriff's office in Sarasota Florida and implemented and unmanned aircraft systems unit with their agency. In addition to that, the unmanned safety Institute, we are professional training organization for UAS operators. We focus on improving safety in UAS operations they basically the adoption or modification of some time-honored safety in aviation practices. We assist in a lot of public safety agencies across the country. Electric utilities companies. Also several different universities across the country.

Today we're going to be doing over three parts, first I'm going to go over somebody law enforcement applications about unmanned aircraft are being used today. In we're going to move into threats to secure facilities and finally into drone law.

Here is one of the polling questions for today. We wanted to ask, what is your current experience on drones at your agency? With you have an experienced drone intrusions. If you have implemented using drones. If you had any issues using drones our considering adding them to your drone policy and if you don't have any experience positive or negative and did not know it was an issue. This is the first question, I believe you will see two other ones in this webinar.

I went into a little bit about myself already so we can move onto the next slide.

This is a little bit about the unmanned safety Institute and what we do.

Why are people getting involved in unmanned aircraft systems especially in law enforcement or corrections wrecks we like to use them in routine response to calls. This is one of the scenarios. First and foremost the crimes in progress, if we get a call to maybe a burglary in progress or anything where an aerial platform could be used, and unmanned aircraft would be a great resource to either a correctional facility or law enforcement agency that maybe doesn't have a traditional manned aircraft unit. Searches for persons. In Sarasota County we have a long beach line. We have the traditional aviation unit but we also have the ability to use the unmanned aircraft if that is a necessity for let's say a missing child on a beach or an elderly person has baby has dementia issues or a Silver alert in using them for in search of a person. Probably the biggest thing we are currently using unmanned aircraft in in law enforcement our traffic accident and crime scene reconstruction. Basically aerial topography and videography and combining those into 3D reconstruction for future generations of investigators to use and for presentation purposes in court. Finally using them in alarm calls. This could be for something like a smaller agency that doesn't have a traditional manned unit and maybe we need an aerial view of possibly a roof or an area we can't access on the ground, a great resource for a patrol officer to have.

Then we get into special operations, crowd and traffic control and special events. We didn't use our unmanned aircraft for a few days ago but we just had Donald Trump in our city two days ago where we could have used and unmanned aircraft to provide traffic control to units on the ground. Pre-raid reconnaissance and intelligence, a lot of aircraft units across the country are using unmanned aircraft forward, since units or Intel units for providing aerial topography and in getting search warrants or for future intelligence of a location we need to be aware of. Another hot topic is the surveillance of high crime areas. This is kind of an interesting area of unmanned aircraft which is still being developed since there is no Supreme Court Kate's yet. Jonathan will probably get into all of that. Disaster assessment. We were just using several unmanned aircraft a few weeks ago with hurricane Matthew when it rolled through the state of Florida. Florida Power use logistics to used logistics to restore power across the state of Florida and in North Carolina and South Carolina. Also a great tool and

unmanned aircraft can be used in, during the nuclear disaster in Japan several years ago, there were several unmanned aircraft with Geiger counters utilized to measure radiation levels inside the plant and basically ditched after but were able to provide intelligence without jeopardizing persons lives.

Why would we use unmanned aircraft instead of traditional aircraft? Traditionally helicopters cost on average between \$1 million to \$2 million with the general rate of \$300 to \$550 per hour without a crew utilizing the aircraft. This is a big barrier sometimes to traditional law enforcement agencies and being able to train their personnel and by an aircraft. And equipment for their mission. With the advent of unmanned technology, agencies are interested in purchasing a drone anywhere -- the lowest platform is maybe around \$500 and you can go up to over \$100,000. It really depends on the mission your agency is trying to do, if they want to use it for a Eric topography or accident reconstruction but it really has opened the door for smaller agencies who have an aviation unit using unmanned aircraft.

This is a case study we did with my agency between a traditional manned helicopter and in unmanned aircraft system. We weren't able to incorporate the video directly into this webinar but it will be included in the resources page after this program if you would like to look at it. Basically this case study shows, the suspect was watering plants the front yard of his residence when he was struck by a stray bullet in the back of the head. We really didn't know any evidence of the crime or what happened. We determined a neighbor about 500 yards away shot around the back of his property and tragically hit the subject in the back of the head.

We had taken a traditional helicopter and tried to demonstrate how this occurred. The images were grainy. We were restricted by airspace and we had some difficulty because it was a complex flight plan for the helicopter to fly. We brought in an unmanned aircraft to demonstrate how this occurred. We created a complex flight plan which showed the trajectory of the round and how it could have been fired from the backyard of the suspect's house to where it struck the victim in basically this allowed a great visual perspective to a jury utilizing an unmanned aircraft system. This is a good case example that would be included in the resources tab.

UAS flightplan event to them. We would talk videography reconstruction and this will be another video included. This was a cold case homicide we were currently investigating that happened back in the late 90s. We basically corroborated traditional manned helicopter photos that were taken back in the late 90s of this residents and with the property looks like back at that time and date and in conjunction with that we utilized the unmanned aircraft system to take photos and videography and 3D reconstruction of that property and corroborated the photos that were taken back in the late 90s and used them in conjunction with the recent unmanned aircraft photos to basically create a nice flowing video that showed the changes in the scenery and the landscape of the property over those years and a much higher detail and a much more complex autonomous flight plan we created specifically for this event. This will also be included in the resources tab.

Finally going to crime scene reconstruction, if we want to take an actual crime scene and develop it into a 3D reconstruction environment, we are currently using Interior 3D reconstruction cameras and utilizing aerial topography and videography to construct the 3D reconstruction environment to demonstrate and show to a jury on a ground level how this crime occurred and also creating specific videos so we can bring a jury down to the crime scene and walk them several steps and make them have the ability to look around as if they were standing in front of the victim's body or a gun on the ground. It creates a very powerful environment for a person to see that. We can also create a virtual reality function by utilizing headsets which is a powerful thing to have.

Some start up suggestions if you guys are looking to use unmanned aircraft in corrections or law enforcement. The most critical thing is having honesty and transparency. This is the most critical part of this process. Jonathan's going to go into about how it makes it look easier for law enforcement to get started. You don't want to hide information from the community. You want to engage the community and be relaxed in what you were doing. You need to answer what your missions and goals are and the most important things you were going to be doing with this aircraft. If you look at the picture to the right, I forget which agency this was but in my opinion this isn't a good way to promote the unmanned aircraft in your agency. You are promoting it in a tactical way. When you're first getting off the ground you don't want to look like a military unmanned aircraft system. You want to show and explain that you're going to be using this for functions that are going to be as if big brother is watching. You want to be able to welcome the media and answer any questions. We have adopted a lot of the chief of police suggestions and the ACLU suggestions and the NAACP and inviting local leaders in and asking them if they have any questions or concerns about the project we are going to start. We also want to distribute policies and procedures.

Basically this isn't a covert operation. You want the community to be open and receptive to what you were doing. We always try to say, if there's a massive car wreck on the interstate in our area and -- and telling them if this will take several hours. We can do the same thing with the aircraft in reconstructing the crash and doing it in less than 30 minutes. You need to be clear and concise with what you're going to be doing.

Slow and steady wins the race when starting in unmanned aircraft system. You want to make sure your mission is clearly planned out and do have a goal in sight. One of the most important things when we were get started was speaking to other agencies with successful UAS programs and going to conferences and conventions across the United States and speaking with other agencies across United States who have had special programs and also agencies who haven't had successful programs and seeing what they did wrong. Researching equipment and what your mission is going to be. Are you going to be taking photographs. Are you going to need a thermal camera for search and rescue operations or if you need possibly a camera with a zoom for tactical operations. These are things you want to answer when you are first signing your unmanned aircraft unit. Finally seeking general counsel assistance in writing policies. Policies and procedure manuals for your agency and general orders and

making sure they are consistent with the recommendations. The international Association with the chief of police -- if anything is ever brought up you can clearly say we practices recommendations and we may practice above and beyond his recommendations so that is a good standard practice.

Finally, coordinating with the FAA on either obtaining your COA to fly your unmanned aircraft system or do the -- and I'm going to have Jonathan go into that a little bit more. Finally getting an original equipment manufacturer authorized training. Law enforcement certifications are no different. In our agency would only employ traditional manned aircraft pilots to fly unmanned aircraft with their agency so we go above and beyond what is necessary to fly these instead of self certifying persons or operators. Getting certifications in keeping the education going and being current on the unmanned aircraft system legislation rules and law. We have monthly training also where we practice scenarios and brief on new regulations or law.

This photo gives a good perspective of two different views of how we can demonstrate a birds eye view of the crash scene to investigators or a jury at a later date.

That concludes my portion of the presentation. If you have any questions be sure to ask and I appreciate your time today.

Okay folks, my name is Jim Deater. My brief background. I work with the Maryland state police. The state please obviously is where I have been thrown into the fire with drone and UAV threats because we have investigated several. Over the past couple of years things have really ramped up so I'm going to talk to you today to talk about threats to secure facilities. Most of you attending today probably work within a secure facility. Keep in mind be secure facility can mean different things to different folks. Nuclear facilities, power plants, most police departments don't let folks just come in and out at will. We also have seen drones or UAV's threaten trained and flying over fly over the top of trains. We investigated several incidents of that occurring. The most serious threats we have dealt with locally in the mid-Atlantic have been threats to prison facilities, state and federal and even some of the local county facilities.

One of the things to keep in mind as you have already heard, these vehicles are excellent for us in law enforcement to use. They give us great evidence and great intelligence. You flip that around and it is also a great resource for your average everyday criminal to use. A lot of these off-the-shelf unit out there, it doesn't take a lot to fly these things. There are all kinds of different environmental, whether plays a major factor in launching and deploying a UAV, but again most criminals if they would just put their minds to legitimate use, they would probably make a lot of money. They go out and practice. Some of these UAV's are autonomous. You can get on Google maps and plan out your flight path and controls that maybe you want to release something at a certain spot. Then you upload it with the USB cable and some instances in Wi-Fi, you upload it to the UAV and you choose the place to launch a new literally let it go and it

will fly out and do what you program it to do and it will come back. Again, not a lot of technology to use these things.

One of the more recent incidences I was involved with in Maryland, two men were arrested -- [Indiscernible] . The interesting thing with this case is the prison facility, they had seen an uptick in illegal substances coming into the facility. They weren't sure what was causing it, in other words how was a getting in? Whether guards bringing it in or people smuggling it in during visits were smuggled into packages coming into the facility. In this area that was one of the more popular things. At another point early on they were considering it was a drone. As things went on, there were bits a pieces of intelligence that came into the facility that in fact they might be looking at a drone intrusion.

I am certain there are many out there across United States that nobody knows this is occurring. In this particular case, the operator was flying the UAV at night. They were dropping the contraband in specific areas within the yard. The topography of the location where this particular facility is located is a mountainous area which is some instances you're looking -- get this done a lot easier than say you are in Arizona in a flat area that has wide open space. This operator set up -- property. They set up off the property of this prison. They set a little bit away. They launched the drone from the back of a pickup truck. They flew it to the facility and went into the yard area over top and dropped the tobacco and drugs and pornography into the area. They already had written a letter of communication to folks ordering things and these folks knew what time they could be in the yard in the evening and things of that nature so there was another aspect to this whole thing, the communication piece. Put your order in. That is another thing to look for. Make sure in the facilities you are paying close attention to inbound and outbound communications especially electronic communications if your facility allows e-mails and things of that nature. The picture on the bottom left is the actual drone that was used. It wasn't a whole lot of payload so they had to make several trips with it. It was flown pretty much line of sight so the operator could see the facility and he was pretty good at flying drones and you will find out why in a few minutes.

In this particular case, the contraband introduced to the facility work 11 DVDs with pornographic titles. 51 packages of "Scooby Snax" which ended up being synthetic marijuana. 116 packages of -- and suspected tobacco. Hundreds of rolling papers. The handgun was not introduced into the facility, it was seized during the takedown operation of these folks. A little bit of background on the operator. He had previous experience flying UAVs. The second person that was with him who actually had the handgun was from another county, a couple hundred miles away. He was there simply to get trained on how to fly and what drove to use and propellers and the whole 9 yards. He was going to then go down to another part of Maryland and open up his own business. This particular person had a handgun and he had discussed introducing weapons to facilities. The drone operator that was actually doing this particular case would not introduce weapons.

Gangs in individuals to use utilizing drones -- three different prison grounds and Hong Kong so is not a U.S. problem. This problem is occurring across the U.S. and the world.

A picture of the actual contraband. The handgun was not introduced it was taken off the person being trained. You see this synthetic marijuana and the pornographic titles and the rolling papers and tobacco and a cell phone.

This is the suspect. This case has been adjudicated and he was found guilty. He was a military veteran and that is where he gained his prior UAV experience. He was good with the police and honest and answered all their questions and that is one of the reasons he said I would not put a weapon into a prison. He was disabled and he ran out of money. He was approached by some folks that had family in prisons and wanted to get those some things that is how he started out. He was training this other person was arrested the same day. He was making extra money on that. One of the big thing is here is if you are at a facility -- was we knew for sure there was an intrusion and a threat from drones, we have local law enforcement and the poor prison -- perimeter checks. They were convinced there was no way they were on the facility. -- he was off the property and not in an area generally controlled by the prison or local law enforcement in literally they started doing patrol checks every night at the time when they felt like this intrusion was occurring at a marked unit rolled up on them with some under covers and watched them and took them down. A search warrant was done across the state because this guy was to counties away from where he lived and did a search on his house and found all other kinds of additional drones and UAV equipment. During the interview he told us he had crashed one a few weeks prior in the backyard of the facility so the contractors that no the outer areas to keep an eye out and if they see something that looks odd, don't run over it, get off and pick it up because that drone we were able to find and it was there. All things to keep in mind. Look to this guy. If you're in an area that has businesses out and around your facility, if you can't do it, ask your local law enforcement that patrols that area to do regular patrol checks specifically after hours. There are parking lots, and you never know what you're going to find.

Thank you. Were going to get more into the drone law portion since everybody is probably wondering if we can do this or shoot them down or jam them. We have a pulling question. Is illegal to shoot down a drone if it is hovering over a prison? Yes, because it is in prison airspace. Yes, because it is outside the FAA's jurisdiction if it maneuvers too low. No, drones our aircraft and it is illegal to shoot down the aircraft. Why you are answering that, we can also getting into if drones are regulated. Drones are aircraft. They are not considered toys by the FAA and they are regulated if they operate in the national airspace. There are multiple ways you can get approved to fly. You can get an exceptions are an exemption. You can fly under part 107 or 101. UK two it -- you can obtain waivers if you need to do certain things that aren't allowed. You can also obtain an airworthiness certificate plus a waiver. It looks like 77% answered correctly and 18% say yes it is in the prison airspace because it is outside the FAA jurisdiction. We can touch on that at the very end because that is one of the big issues right now facing the drone industry, how high does my airspace go up to and how far down does navigable airspace go down to? That is the big issue there going forward on how you can interact with some of these drones.

In order to determine which of those FAA authorization rules you need to obtain, you need to identify what your operations are. Everybody can be falling into the civil aircraft category. All of them apply to that operation. If you meet three statutory criteria, you can obtain what is called public aircraft status and that allows you to determine your own standards for certain things such as pilot requirements or medical requirements of the pilots and airworthiness requirements of the aircraft and maintenance standards and you can do that instead of actually complying with the Federal aviation regulations that discuss those points because those are only applicable to similar aircraft, not public aircraft so that is the benefit if you fall under the public aircraft category. You need to set your standards for certain regulation. It is a cumbersome task to determine which ones apply in do not apply the basically you reach into the federal aviation regulations in the DC any usage of the word aircraft, that means all aircraft, civil and public. If you see aircraft only that applies only to civil aircraft. That is the benefit of following under the public aircraft category.

For the three criteria, it has to be owned or leased in one of five statutory listed ways. The operation of aircraft -- what is interesting is the statutes say law enforcement so that is considered a government operation but is not clearly defined as to how that can apply, we understand the front and that works with getting the bad guy but what happens after you've gotten him and you're trying to do corrections with the prisons and jails so it's not entirely clear there. There will be a need to clarify that with the office of General Counsel at the FAA but law enforcement -- the last point is there can be no compensation or reimbursement for the flight.

Here is a table in trying to figure out what you need. When you figure out the category you are in you can figure out the authorization you need in order to fly in international airspace. If you are a public operator, and you are unmanned which you need a declaration letter, once you file with the FAA they will give you access -- certificate of authorization. You apply for one and if you answer everything correctly and as a believe sure operations will be safe they will give you a certificate of authorization. If you choose to operate civilly, you can operate under part 107 or Section 333 exemption. For manned aircraft -- they don't need a public certificate of authorization and lastly for civil aircraft or manned that are non-recreational [Indiscernible]

Law enforcement is a governmental function. A lot of prisons can probably fall under this and operate -- if they determine the law enforcement aspect on the back and does not fully apply to corrections, you have part 107 which is for civil aircraft. Public aircraft operation status is an extra benefit that you don't have to accept that. You can choose to fall back into the part 107 and operate under those regulations [Indiscernible] . Another option is the Section 333 exemption. One benefit to this exemption is part 107 has regulations with limitations and also waivers. There is only so many waivers you can't obtain so if you are wanting to do operations outside of 107 or what the waivers will allow, mainly if you were carrying something that would be classified as hazardous material or a drone that is 55 pounds or heavier, you have to fall under the exemption category or potentially obtain a public COA. You have multiple tools. You might want to even obtain two of these. Instance with the public COA you are prohibited from obtaining any type of reimbursement but if you want to do your drones like to do

something like marijuana eradication, you can't fly under the public COA for that page you can [Indiscernible] .It depends on the situation you are in and what you want to do. You might need two or three of these tools to accomplish your mission. Basically law enforcement and government use of drones -- focusing on law enforcement. The problem with that -- they had exceptions. Some of the states created broad provisions on the collection of days it using drones in such a way that is incredibly broad. The Florida Department of wildlife, an individual [Indiscernible] would have to get a warrant to check out docs because another department in the agency had a law enforcement portion. You want to check out your state laws and look at the assumptions to find out if some of your operations [Indiscernible] and that fixes a lot of problems there.

Civilians flying near the prison is which are probably having problems with. Part 101 does not prevent flying near prisons. Part 101 is the federal aviation regulation. Part 48.1 does require the aircraft [Indiscernible] must be registered and identified. On the outside of aircraft or potentially like in a compartment provided there is no tool required. At the end of the day some of the people that are drooling is contraband ops I'm pretty sure they're not going to go out of their way to figure out how they can be compliant. If you obtain one of those --

[Indiscernible] everybody has a unique letter that applies to them. If the United States -- Mexico is like x-ray so you understand which country it came from. In the United States, there is a database online you can check to find out who owns it and that is publicly searchable. For part 48 registration which is the online method which is what most of the individuals out there have registered, the only way you can get that information is you're going to have to call the FAA and have them write a check.

If you go to the resources center, I put a document with five helpful resources for corrections. In the back they have a list of phone numbers for the operational centers for FAA. There is also law enforcement guys and they can try to track down the right number so you can find out who is linked to remember at the end of the day these drones have to be registered. This drone can be stolen. He can say I got it from a friend so the guy who registered the drone might be completely innocent. Also keep in mind for purposes of the federal statutes, -- requires aircraft operators make available upon request your certificate of registration if local law enforcement, state or government asks for it. That is one thing to fall back on. The big problem is how does that interact when you have state law enforcement and now you're coming across a federal law violation that is a crime punishable for three years in prison so that gets a little interesting about how you deal with these federal criminals -- or they are not presenting the registration which is also a crime.

This is such a new area some of the stuff I am throwing up on the board. We will circle back around at the end and you can cover some of them. With non- recreational section 333 exemptions have language they are to turn over the documents to local law enforcement if they are requested to. That is something you can ask for if they are operating in a commercial manner. If they are operating under part 107 it says an owner or person [Indiscernible] make available to the administrator the remote pilot certificate or any documents or records

required to be kept under the regulation so they may be required -- if they are operating partially under 107 but the provision was only available to the FAA. When you look up administrator it means federal aviation administrator [Indiscernible] formal enforcement function. For manned aircraft operations [Indiscernible] are required to turn over their document if local law enforcement actually asks for it [Indiscernible]

Civilians flying near prison. For certain types of activities that might happen at the prison such as maybe a prison riot or jailbreak you could call in with the FAA and get a temporary flight restriction to keep other aircraft away and that will probably only keep away the compliant ones but that is one option on the table. From the federal law enforcement side of things is the FAA reauthorization act that happened this last July added a new provision in 49 USC -- it made it a civil penalty for the interference with law enforcement by an unmanned aircraft and provide for penalty of up to \$20,000. You also have Section 2 209 that allows -- designated as prohibitive for restricted so there is some criteria that is somewhat vague. Potentially prisons could fall in their as of the locations that weren't such a restriction. You might be able to follow to something like that.

Can I jam the drone? No. There's really only one exception. The Communications Act of 1934, Section 3 01 requires persons operating or using -- licensed or authorized a -- prohibits the manufacturer [Indiscernible] . For the sale and operation of devices within the United S tates. Section 3 33 -- [Indiscernible] . FCC regulations prohibit marketing or operation of these devices and the criminal code that prohibit that gets into when you are jamming the GPS receiver or somehow offering spoofed signals. That is a potential crime the Department of Justice can maybe come after you for.

What if you want to use a shotgun? Title 18 of the United States code says whoever willfully sets fire to, -- [Indiscernible-Rapid Speech]. Just a quick clarification on the last slide. The only ability the SBC has for purposes of allowing jamming is only for U.S. government agencies, not state.

Any questions?

Thank you, Jonathan. This does conclude our session. We are going to change it up a little bit because of the panel and we ran a little bit long. We answered some of the questions with the presentation. If you have a question that didn't get answered we invite you to move or two discussion forum and post it on the drones topic. The panelists and I will respond to your questions and we will communicate with you that way.

Coming up at 12:30 Eastern time is our keynote address, innovations of design leadership and the presenter is Dr. Clark Quinn so that's going to be a pretty fantastic keynote and we invite you to attend that as well and we thank you for your time today.

Ladies and gentlemen that this concludes today's presentation. You may now disconnect your lines.