Public Safety UAS Certificate of Authorization/Waiver Process

Texas Gulf Coast Public Safety UAS Response Team
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Introduction
In 2016 the FAA issued advisory circular (AC) 107-2. Under section 5.19 of the AC the FAA described how the Certificate of Waiver (COW) process would take place and what regulations could be waived. Part 107 includes the option to apply for a Certificate of Waiver or Authorization (COW or COA). A COA will allow an sUAS operation to deviate from certain provisions of part 107 if the Administrator (FAA Reviewers) finds that the proposed operation can be safely conducted under the terms of that COA. ¹

A list of the waivable sections of part 107 can be found in § 107.205 and are listed below:

- Section 107.25, Operation from a moving vehicle or aircraft. However, no waiver of this provision will be issued to allow the carriage of property of another by aircraft for compensation or hire.
- Section 107.29, Daylight operation.
- Section 107.31, Visual line of sight aircraft operation. However, no waiver of this provision will be issued to allow the carriage of property of another by aircraft for compensation or hire.
- Section 107.33, Visual observer.
- Section 107.35, Operation of multiple small unmanned aircraft systems.
- Section 107.37(a), Yielding the right of way.
- Section 107.39, Operation over people.
- Section 107.41, Operation in certain airspace.
- Section 107.51, Operating limitations for small unmanned aircraft.

If your agency is looking to obtain a COA and there are other departments within your City/County, you will need to reach out to those departments to verify if they have a COA in place. Somewhat recently the FAA has decided to only issue City or County wide COAs to reduce workload. For Example: If the City of Pearland Police Department has a current COA and the City of Pearland Fire Department wishes to have their own COA, the FAA is not approving those requests and advising the Fire Department to fly under the PD’s COA. This could cause some logistical and workload issues for your agency. It should also be noted that the FAA is also researching taking this a step further and possibly moving to a regional wide COA only. However, at this time there has been no movement on the topic.

Purpose
The purpose of this document is provide a guideline for obtaining a blanket and/or jurisdictional COA with attached daylight waivers for government agencies for sUAS operations. For the purposes of this document, COW and COA will be used interchangeably.

¹ [https://jrupprechtlaw.com/section-107-200-waiver-policy-requirements](https://jrupprechtlaw.com/section-107-200-waiver-policy-requirements)
Disclaimer

This document is designed for completion and submission of COA applications through the CAPS website and will not be effective in submitting Part 107 waivers through drone zone. It should be noted that this document was created May of 2019. Depending on when the reader obtains the document and attempts to submit the applications, the regulations and/or restrictions and/or associated forms may have changed. The verbiage, item selections, and processes depicted and articulated in this document have been successfully approved by the FAA for multiple agencies. However, verbiage, item selections, and processes advised in this document may not fit your individual agency’s needs, policies, or procedures and may require your own adjustment. The Gulf Coast Regional Public Safety UAS Response Team or its members do not in any way accept any type of liability associated with the waivers you submit. It is the applicant’s responsibility to understand the requirements, restrictions, and regulations of the applications submitted.
Special Government Interest Process (E-COA)
First responders and others organizations responding to natural disasters or other emergency situations may be eligible for expedited approval through our Special Governmental Interest (SGI) process. Operations that may be considered include:

- Firefighting
- Search and Rescue
- Law Enforcement
- Utility or Other Critical Infrastructure Restoration
- Incident Awareness and Analysis
- Damage Assessments Supporting Disaster Recovery Related Insurance Claims
- Media Coverage Providing Crucial Information to the Public

To apply for a waiver through the SGI process you must be an existing Part 107 Remote Pilot with a current certificate OR you must have an existing Certificate of Waiver or Authorization (COA). If your operation falls under any of the aforementioned emergencies and the flight would require a waiver (flight in controlled airspace, night operations, flight above 400ft AGL, flight in less than 3SM visibility, etc.), then the SGI process may authorize an emergency COA (E-COA). This process has been known to be very expedient with submission to authorization times to range from immediate to ~1 hour.

To submit a waiver through this process for a preplanned event, fill out the Emergency Operation Request Form (MS Word) and send to the FAA’s System Operations Support Center (SOSC) at 9-ator-hq-sosc@faa.gov. If approved, the FAA will add an amendment to your existing COA or Remote Pilot Certificate that authorizes you to fly under certain conditions for the specified operation. If denied, operators should NOT fly outside the provisions of their existing COA or part 107. Operators have the option to amend their requests.

If the event is not a preplanned event, such as a spontaneous emergency event (mass shooting, structure fire, missing person with threat to life or serious bodily injury), contact (202) 267-8276 and provide all requested information. Depending on the urgency of the UAS operation the SOSC representative might immediately authorize the flight, or request the Emergency Operation Request Form be completed and submitted prior to authorization.

See Appendix A for Emergency Operation Request Form
COA Online Application Processing System (CAPS)

COA is an authorization issued by the Air Traffic Organization to a public operator for a specific UA activity. After a complete application is submitted, FAA conducts a comprehensive operational and technical review. If necessary, provisions or limitations may be imposed as part of the approval to ensure the UA can operate safely with other airspace users. In most cases, FAA will provide a formal response within 60 days from the time a completed application is submitted. Some agencies have seen a response as little as a few hours for blanket waivers and a few days for jurisdictional authorizations.

The FAA deployed a web-based application system to review and process the applications called CAPS. CAPS provides an interactive online application process to request a COA for a specific flight operation, blanket public COA - permitting nationwide flights in Class G airspace at or below 400 feet, self-certification of the UAS pilot, and the option to obtain emergency COAs (e-COAs) under special circumstances. Applicants will need to obtain an account in order to access the online system. To gain access and create an account the CAPS Access Request Form must be completed and submitted to 9-AJV-115-UASOrganization@faa.gov. Once completed and submitted, you will be contacted via the email you provided regarding the account creation process for CAPS. In the section requesting a reason why you are using UAS, use the following verbiage: You represent your agency and will submit COA applications for your agency, which is developing a sUAS program to address law enforcement and emergency response applications within the AOR.

The CAPS website is https://caps.faa.gov. If you were to go to the webpage prior to gaining authorization to create an account through the link they will provide, you will find a register now button in the top right hand corner of the web page. This process is for Department of Transportation external employees only and does not pertain to FAA public safety COA applications.

An important note, CAPS is a government ran website. As such is as reliable as one might expect. Have patience with CAPS, it will be down often, lock up, and crash. Save your work and be prepared to maybe try another day.

2 https://www.faa.gov/about/office_org/headquarters_offices/ato/service_units/systemops/aim/organizations/uas/coa/
Blanket Class G Airspace COA

A blanket class G airspace waiver permits nationwide flights in Class G airspace at or below 400 feet, self-certification of the UAS pilot, and the option to obtain a Special Government Interest COA (SGI COA) under special circumstances. In the application, you will be requesting a daylight waiver be attached to the COA. Once approved this will grant you the ability to fly sUAS at night in Class G airspace day or night.

To start an application, log into CAPS. Once you have logged in, click on both the Public COA tab and then select New Public COA, or click on Start a new Public COA from the menu.

Proponent Information

Once selected, you will be brought to the Proponent Information section of the application. It should be noted, there multiple sections that can be selected on the left hand side of the page. In the main body of the page, you will notice that there is not a scroll option. However, if you were to click in the section then scroll using the down and up arrows on your computer, you will notice that there are more fields that will need to be filled out. This is common on almost every page and should be checked prior moving forward to the next sections.

Proponent Information:

Sponsor:    Your City/County (City of Pearland)
Attention of:    You or Your UAS Program Manager/Supervisor’s name
Address:    Your Department’s address information
Telephone:    You or Your UAS Program Manager/Supervisor’s work phone number
Email:    You or Your UAS Program Manager/Supervisor’s work email
If at any time you need to stop the application process, be sure to click the save as draft button at the bottom of the page to save your progress. Once you have finished the section, click the save and next button.

**Declarations**

This section requires an upload of your City or County Declaration Letter. The Declaration Letter is a letter to the FAA’s Air Traffic Manager for UAS from your City or County Attorney advising that your entity is by law a government agency.

Select yes or no as it pertains to your agency. The selections made in this section were made as it pertains to the City of Pearland Police Department. This also is one of those sections with an extended body. Be sure to click on an empty area in the body and scroll using your down and up arrows.

See Appendix B for a copy of the City of Pearland’s Declaration Letter for proper verbiage to be used.
Point of Contact Information
Fill out the fields accordingly. This will be the point of contact information in the event the FAA needs to reach out to you or the COA manager regarding any issues.

Operational Description
In the approval effective period section the dates will be filled in by the FAA upon approval. The verbiage for this section are as follows.

Program Executive Summary:
This blanket area COA limits the City of Pearland Police Department to Day and Night UAS operations within the Contiguous United States during daytime Visual Meteorological Conditions (VMC) conditions under the following limitations:

1. In Class G Airspace at or below 400 feet AGL; and

2. will take place beyond the following distances from the airport reference point (ARP) of a public use airport, heliport, gliderport, or water landing port listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications.
   a) 5 nautical miles (NM) from an airport having an operational control tower; or
   b) 3 NM from an airport having a published instrument flight procedure, but not having an operational control tower; or
   c) 2 NM from an airport not having a published instrument flight procedure or an operational control tower; or
   d) 2 NM from a heliport.

For the purposes of the User defined area enter your training location or the location of your agencies main offices.
Operational Summary:
Prior to any mission being launched the City of Pearland will ensure all parties are notified that may be impacted by the UAS operation. The City of Pearland will utilize a small UAS in support public safety missions to include but not limited to gathering photographic and video evidence over crime and traffic accident scenes: Explosive Ordnance Disposal missions, response to hazardous materials spills, search and rescue missions, public safety, life preservation missions, gathering photographic and video images over disaster scenes and fire areas and training missions.

UAS Platform
This section unfortunately is not user friendly, nor does it actually function properly. A COA is required to have UAS Platform information reported in the COA to be approved. However, the coding for the website and back end infrastructure only allows for one sUAS to be submitted. You will create a document that states that all your agency’s UAS will be utilized under the COA and are airworthy. For example, Pearland PD currently has 8 sUAS. However only our M210RTKV1 is listed on our COA. It should also be noted that you might encounter an error where the system does not like the UAS description of the UAS you are entering. Submitting the application with this error will not affect the approval of the application.

Start by clicking “create new aircraft” followed by “create new aircraft with blank forms”. After clicking create new aircraft with blank forms, select UAS Platform Description in the Selection
UAS Platform Description
The first box, Aircraft Type/Model is the error that was mentioned earlier in this section. Once anyone in the nation creates a COA Application and submits it to the FAA it records it and no one else can create the same Aircraft Type/Model name except that individual that made the original page. Example the original person submitted a DJI Phantom 4 Pro as DJI P4P. The next person would need to submit the field to be DJI P4P 1 or some other identifier for the same type of aircraft. For the purposes of this field, put the sUAS make and model followed by your agency’s abbreviation, this usually solves this error (M210RTK PPD). If not, you might have to get creative. All the information required for these this portion can be found on the manufacturer’s specs websites. I have provided DJI’s information in Appendix C:

Airworthiness
Scroll down to the If no FAA Certificate section. In the text box add a sentence that states your agency finds all sUAS to be airworthy based on the information in the attached document.
Scroll further down and upload your airworthiness statement. This statement should be on your department’s letterhead.

See Appendix D

Lost Link Procedures
Typical lost link procedures for DJI products is, after 3 seconds, the UAS will autonomously return to home. Thus, in the activation time input the number 3. The selections will be specific to your agency’s policy and procedures. Recommended selections:

Options- Turn around, directly come back to base
Altitude- Climb
Climb amount (ft)- 400
If Link is re-established- Continue
ATC Contact information should be either your UAS manager/ Supervisor or your Chief Pilot’s information. This will be used to directly contact you in the event an ATC needs to contact you.

Finally, create a word document with the following verbiage and upload it to this section.

Title: Lost Link Procedure

1. Lost Link Procedures:
   a. In the event of lost link, the UA must initiate a flight maneuver that ensures landing of the aircraft. Lost Link airborne operations shall be predictable and shall remain within the defined operating area filed in the NOTAM for that flight operation. In the event that the UA could potentially enter controlled airspace, the PIC will immediately contact the appropriate ATC facility having jurisdiction over the controlled airspace to advise them of the UAS’s last known altitude, speed, direction of flight and estimated flight time remaining and the Proponent’s action to recover the UA.
   b. The sUA is preconfigured / programed in the event of a Lost Link condition to stop forward flight and attempt to regain link to the remote operated by the PIC. If link is not re-established the PIC will also initiate a manual Return to Home procedure by activation the Return to home function on the UA’s remote.
   c. If the link is re-established the PIC will take control of the UA and continue the operation or maneuver the UA back to the launch location if safe to do so. If link is intermittent the PIC will immediately land the UA in a safe location.
   d. Once the UA has returned to home or recovered, the UA will be inspected for causes of the lost link condition and necessary repairs will be made prior to any future flights.
   e. All lost link events will be documented along with any findings of causes of these lost link events.

2. Lost Visual Line of Sight:
   a. If the VO loses sight of the UA the VO must notify the PIC immediately. If the UA is visually reacquired promptly, the mission may continue. If not, the PIC will immediately execute lost link procedures
3. Loss Communications:
   a. If communication is lost between the PIC and the VO(s), the PIC must execute the lost link procedures.

Lost Communication Procedures
The selections will be specific to your agency’s policy and procedures. Recommended selections:

During a Loss of Communications:

Between Observer and PIC - Type of Your agency’s radios
The PIC will use - Type of your agency’s radios to re-establish communications
Between PIC and ATC using - Type of your agency’s radios
The PIC will use - Cell Phone to re-establish communications

Loss of Visual Sight of the UAV:
PIC will contact - Observer
The PIC will use - Type of your agency’s radios

Next, create a Lost Communication Procedures word document to be uploaded with the following Verbiage:

Lost Communications Procedures-

1. Loss of Communications between the Pilot in Command and Air Traffic Control
   If required, the PIC will communicate with ATC through use of two way radio communications or a cellular phone based on the agreement between ATC and the PIC. In the event the PIC is unable to establish communications, the PIC will immediately land the UA until communications can be regained. In all cases, when during Loss of Communications there is concern for people or property in the air or on the ground the PIC will immediately land the aircraft.

2. Loss of Communications between the Observer and the Pilot in Command
   The PIC and Observer will be collocated during operations for this COA and communications will be through direct communication. However, if the observer and the PIC are not co-located where verbal communication is not possible, the following communication tools will be utilized:...
   - Hand held radio
   - Voice actuated headsets
   - Cellular phone
   - Hand Signals (may be used solely or in conjunction with the communication equipment)

   If communication is lost and cannot be re-established the UA will immediately land
Emergency Procedures
Next, create an Emergency Procedures word document to be uploaded with the following Verbiage:

Emergency Procedures
Personnel flying the UAS will first and foremost be trained that in any emergency situation, the safety of persons on the ground and in the air is number one. The following are emergency procedures and each will be documented with an emergency checklist for crew to review.

- Fire
  - UAS will be flown away from people and property until a safe landing location can be found. A fire extinguisher and first aid kit will be located at the mission site.

- Loss of Link
  - Onboard system will execute lost link protocol by either landing immediately or returning to launch point and land.

- Line of Sight lost
  - In the event that both crew members lose sight of the aircraft the pilot will initiate a Return-To-Home on the remote control. The Return-To-Home protocol is identical to the Loss of Link protocol. Once visual contact with the aircraft is re-established the pilot will take-back the aircraft using the remote control.

- Loss of Engine
  - During an engine failure UAS flight cannot be maintained and the UAS will make an uncontrolled landing. An announcement will be made to all crew members of the loss of the flight of the aircraft and to watch for the landing site. One crew member will bring a fire extinguisher to the landing site in case of fire.

- Unusual Attitude
  - Onboard stabilization gyros will be allowed to level aircraft before control is resumed by ground control.

In the unlikely event of an emergency involving the aircraft and person on the ground, the flight crew (PIC and Observer) shall maintain a list of applicable numbers (EMS, Dispatch, ATC) for emergency contact. The flight crew will also be trained in CPR and first responder medical techniques.

Lights
For this section, refer to the spec sheets for you UAS and select as applied.

Spectrum Analysis Approval
Data Link- Yes
Control Links- Yes
Operations Utilizing RC as described in Title 47- No

There are no files to upload for this section
ATC Communications
Two way Voice Capabilities:

All selections on this page should be No

Electronic Surveillance
Electro-Optical/Infrared- Yes
Terrain Detection- Yes
Weather/Icing Detection- No
Onboard Radar- No
Electronic Detection System- No
Forward or side looking Camera- Yes
Ground Based Radar Observation- No

Aircraft Performance Recording
Flight Data Recording- Yes
Control Station Recording- Yes
Voice Recording- No

This concludes the UAS Platform section. You will likely have an X by the Platform Description portion due to the Aircraft Make/Model identifier. As mentioned earlier, ignore this error. As you see in the below picture, the COA will still be approved with this error:

Visual Surveillance
Visual Observers

Maximum Distance from UAS

Vertical- 1000ft AGL (this altitude is for use around structures that grant higher than 400ft AGL)
Horizontal-.5 NM
Airborne Chase Aircraft- No
Ground Based- Yes
VO from one or more ground units- Yes

**Flight Operations Area/Plan**
In this section you will need to click the white area above the map, but below the Flight Operations Area/Plan. Then scroll down until you reach the fillable fields. Click on the Add a New box and select Waypoint. In the Location Format box select degrees. Fill in the Lat/Long for your agency’s headquarters, which can be located on Google Maps. Next, fill in the speed fields with the information you provided in the UAS platform information.

Floor AGL- 0
Ceiling AGL- 400
Operational ID- Your Agency’s Acronym (PPD)
Radius- 1

Then click the save button next to the Location Format box. Scroll down to the Upload section and create the following word documents to be uploaded:

“**Blanket Flight Operations Area Plan.**”

This blanket public safety COA limits Your Agency to Day and Night UAS operations within the Contiguous United States during daytime Visual Meteorological Conditions (VMC) conditions under the following limitations:

(1) In Class G Airspace at or below 400 feet AGL; and

(2) will take place beyond the following distances from the airport reference point (ARP) of a public use airport, heliport, gliderport, or water landing port listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications.

   a) 5 nautical miles (NM) from an airport having an operational control tower; or
   b) 3 NM from an airport having a published instrument flight procedure, but not having an operational control tower; or
   c) 2 NM from an airport not having a published instrument flight procedure or an operational control tower; or
   d) 2 NM from a heliport.

For the purposes of the User defined area enter your training location or the location of your agencies main offices.

---END OF FIRST DOCUMENT---
Night Operations Safety Case

Day Operations

UAS operations outside of Class A, B, C, D airspace, active restricted or warning areas designated for aviation use, or approved prohibited areas, will be conducted during daylight hours unless otherwise authorized.

Night Operations.

1. Night operations will be considered if the UAV PIC provides a safety case and sufficient mitigation to avoid collision hazards at night.

This will include a plan to stay below 400’ AGL and above the highest known obstacle in the flight area. If the PIC cannot confirm hazards in the flight area, night operations will not be authorized.

2. UAS night operations are those operations that occur between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac, converted to local time. (This is equal to approximately 30 minutes after sunset until 30 minutes before sunrise, except in Alaska.) External pilots and observers must be in place 30 minutes prior to night operations to ensure dark adaptation.

Before Night Operations:

1. The PIC must conduct three takeoffs (launch) and three landings (recovery) each, in the specific UAS at night, to a full stop in the previous 90 days.

2. The Observer requirement. A VO must be positioned to assist the PIC to exercise the see-and-avoid responsibilities required by scanning the area around the aircraft for potentially conflicting traffic and assisting the PIC with navigational awareness.

3. Visual Observer (VO) must:
   a. Assist the PIC in not allowing the aircraft to operate beyond the Visual Line of Sight (VLOS) limit.
   b. Be able to see the aircraft and the surrounding airspace sufficiently to assist the PIC with:
      • Determining the unmanned aircraft’s (UA) proximity to all aviation activities and other hazards (e.g., terrain, weather, and structures);
      • Exercising effective control of the UAV;
      • Preventing the UAV form creating a collision hazard.
   c. Inform the PIC before losing sufficient visual contact with the UAV or previously sighted collision hazard. This distance is predicated on the observer’s normal vision.

NOTE- Only normal vision using corrective lenses, spectacles, or contact lenses will be allowed.
ADDITIONAL NIGHT OPERATIONS SAFETY information for visibility

WHITE FLASHING NAV LIGHT will be used during all “Night UAV Operations”

Additional Part 107.29 compliant LEDs groups, which consist of 4 cree LEDs housed in one unit, have been affixed to the top hull portion the sUAS. Each of these LED groups exceed the 3SM visibility requirement and have the ability to strobe, flash, or provide continuous light. Each unit weighs approximately 6 grams, thus not interfering with the sUAS flight dynamics.

----END OF SECOND DOCUMENT----

You do not have to use the image of the M210 as I have done. You can use any UAS you prefer. The purpose of the image is to depict where the anti-collision light will be mounted.

Flight Crew Qualifications
See Image for selections:

Verbiage for Pilot Box:
PIC will hold either Part 107 or training provided by proponent meeting appropriate FAR (Federal Air Regulations)

Verbiage for Observer Box:
The observer will receive information on appropriate FAR Part 91
Pilot Currency Status Verbiage:
Proponent will ensure pilot is medically qualified to fly UAS.

Observer Currency Status Verbiage:
Observer will medically qualified to perform the duties of an observer.

Pilot and Observer Duty Time Restrictions Verbiage:
Duty time restrictions will be based on agency policies.

Special Circumstances
In the text box state “See Flight Operations Area Plan for Night Safety Case.”

Review Documents
This section depicts all the documents that have been registered as uploaded correctly. There have been instances where files are missing in this section, but showing to be uploaded in the appropriate section they were uploaded in. If this is the case for your instance ignore that they are not showing up in the Review Documents portion and continue. If the file is not showing up in either this section or the section it is supposed to have been uploaded in, reattempt to upload the file.

Files that should be in this section (not in any specific order):

Declaration Letter
Emergency Procedures
Lost Communications
Lost Link Procedures
Airworthiness Statement
Blanket Flight Operations Plan
Night Operations Safety Case

Preview COA
This section is a review of all the previous sections. If all are correct, click the submit button.

This will send the application to the FAA application reviewers. You will receive an email regarding the status of the application after the review is complete. If approved, you will receive a pdf file of the COA see Appendix E. If denied, typically it is due to some minor adjustment the reviewer from your region prefers and is easily adjusted. After the adjustments are made, resubmit the application. The comments from the reviewer can be found on the far left side of the page:

Jurisdictional COA
A jurisdictional COA should be obtained if your operations will or could be conducted in controlled airspace. A jurisdictional COA will allow for Day and Night small UAS (55 pounds or less) operations during Visual Meteorological Conditions (VMC) conditions under the following limitations: In Class B, C, D, and E Airspace at or below 200 feet AGL. The process is exactly the same as a blanket Class G COA with a few exceptions. Those exceptions will only be outlined in this section. For all other sections, refer back to the blanket COA fields.

Operational Description
Program Executive Summary:

This JURISDICTIONAL PUBLIC SAFETY COA approval will allow for Day and Night small UAS (55 pounds or less) operations during Visual Meteorological Conditions (VMC) conditions under the following limitations: In Class B, C, D, and E Airspace at or below 200 feet AGL.
Operational Summary:

Prior to any mission being launched the City of Pearland Police Department will ensure all parties are notified that may be impacted by the UAS operation. The City of Pearland Police Department will utilize a small UAS in support public safety missions to include but not limited to gathering photographic and video evidence over crime and traffic accident scenes; Explosive Ordnance Disposal missions, response to hazardous materials spills, search and rescue missions, public safety, life preservation missions, gathering photographic and video images over disaster scenes and fire areas and training missions.

Class of Airspace:

Check all that apply to your area

UAS Platform

In this section you can skip the creating a new form and pull the information from your saved UAS from your Blanket COA. If you did not create the blanket COA follow the blanket COA steps.

Flight Operations Area/Plan

At the top of the map select the draw on the map drop down box and select “area.” Use this feature to draw your area of operations (County, City, etc.). It might be easier for you to select base layer and select roads. Then, select layers and deselect VFR. This will provide a google map overlay of the area. Be careful not to overlap your waypoints.

It should be noted that the City of Pearland resides in three counties. I attempted to request all three counties in their entirety by drawing the outlines of all three counties combined. I was advised by the FAA that this was unacceptable and was restricted to my city boarders and immediate surrounding areas. Regardless of my role in the regional team, legal jurisdiction in all three counties, or legal jurisdiction anywhere in the state as a police officer. Due to this, it is recommended you request your immediate area and nearby surrounding areas for this process.

Once your area is selected as depicted above, a pop up box will appear. Fill out the fields as you did for the blanket Class G COA, then save the area.
Create the following documents to be uploaded:

**Jurisdictional Night Safety Case**

**Day Operations.**

UAS operations outside of Class A, B, C, D airspace, active restricted or warning areas designated for aviation use, or approved prohibited areas, will be conducted during daylight hours unless otherwise authorized.

**Night Operations.**

Night operations will be considered if the UAV PIC provides a safety case and sufficient mitigation to avoid collision hazards at night.

This will include a plan to stay below 200’AGL in Class B airspace; or 400’ AGL and above the highest known obstacle in all other airspaces within the flight area. If the PIC cannot confirm hazards in the flight area, night operations will not be authorized.

1. UAS night operations are those operations that occur between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac, converted to local time. (This is equal to approximately 30 minutes after sunset until 30 minutes before sunrise, except in Alaska.) External pilots and observers must be in place 30 minutes prior to night operations to ensure dark adaptation.

**Before Night Operations:**

1. **The PIC** must conduct three takeoffs (launch) and three landings (recovery) each, in the specific UAS at night, to a full stop in the previous 90 days.
2. **The Observer** requirement. A VO must be positioned to assist the PIC to exercise the see-and-avoid responsibilities required by scanning the area around the aircraft for potentially conflicting traffic and assisting the PIC with navigational awareness.
3. **Visual Observer (VO) must:**
   a. Assist the PIC in not allowing the aircraft to operate beyond the Visual Line of Sight (VLOS) limit.
   b. Be able to see the aircraft and the surrounding airspace sufficiently to assist the PIC with:
      - Determining the unmanned aircraft’s (UA) proximity to all aviation activities and other hazards (e.g., terrain, weather, and structures);
      - Exercising effective control of the UAV;
      - Preventing the UAV form creating a collision hazard.
   c. Inform the PIC before losing sufficient visual contact with the UAV or previously sighted collision hazard. This distance is predicated on the observer’s normal vision.
   d. Have completed Night VO Operation Training in the previous 24 months.
      - Training includes night vision factors and illusion identification and prevention.

**NOTE-** Only normal vision using corrective lenses, spectacles, or contact lenses will be allowed.
ADDITIONAL NIGHT OPERATIONS SAFETY information for visibility

WHITE FLASHING NAV LIGHT will be used during all “Night UAV Operations”

Additional Part 107.29 compliant LEDS groups, which consist of 4 cree LEDs housed in one unit, have been affixed to the top hull portion the sUAS. Each of these LED groups exceed the 3SM visibility requirement and have the ability to strobe, flash, or provide continuous light. Each unit weighs approximately 6 grams, thus not interfering with the sUAS flight dynamics.

---END OF FIRST DOCUMENT---

This JURISDICTIONAL PUBLIC SAFETY COA limits Your Agency to Day and Night UAS operations within the Contiguous United States during daytime Visual Meteorological Conditions (VMC) conditions under the following limitations:

(1) In Controlled Airspace:
   a. At or below 200ft AGL; or

(2) In All Other Airspace:
   a. At or below 400ft AGL; and
   b. will take place beyond the following distances from the airport reference point (ARP) of a public use airport, heliport, gliderport, or water landing port listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications.
      i. 5 nautical miles (NM) from an airport having an operational control tower; or
      ii. 3 NM from an airport having a published instrument flight procedure, but not having an operational control tower; or
      iii. 2 NM from an airport not having a published instrument flight procedure or an operational control tower; or
      iv. 2 NM from a heliport.

---END OF SECOND DOCUMENT---

Once you have made these adjustments, review your COA and submit.
COA Reporting
Every month ALL approved COAS require you to log the flights conducted under the COA’s Authorization (flights in controlled airspace and night ops), even if there were no flights conducted under the COA. The reporting menu can be found here:
Appendix

Appendix A

Certificate of Operation (COA) Application Processing System (CAPS) Access Request Form

The Certificate of Authorization (COA) Application Processing System (CAPS) is a web application developed in support of the Federal Aviation Administration (FAA) Modernization and Reform Act of 2012, Pub. L. 112-95 (“FMRA”) § 333 and 334, Special Rules for Certain Unmanned Aircraft Systems. FMRA directs the FAA to safely integrate unmanned aircraft systems (UAS) into the National Airspace System (NAS). CAPS provides and interactive online application process to request a COA for a specific flight operation, blanket public COA - permitting nationwide flights in Class G airspace at or below 400 feet, self-certification of the UAS pilot, and the option to obtain emergency COAs (e-COAs) under special circumstances.

In order to gain access to CAPS, please complete this form and submit to 9-AIV-115-UASOrganization@faa.gov and allow 1 to 2 business days for processing. For questions about this form, send and email to 9-AIV-115-UASOrganization@faa.gov.

Also please visit www.faa.gov/uas if you are not sure about which type of waiver or authorization is needed for your UAS operation.

Section 1: Requester Information

<table>
<thead>
<tr>
<th>Date</th>
<th>Name</th>
</tr>
</thead>
</table>

Agency/University

Telephone

Email

Is requester a contractor? Yes No

If Yes, proceed to Section 2. If No, proceed to Section 3.

Section 2: Contractor Requests

Contractors must submit this form along with a signed letter from the authorizing agency for public requests.

Example #1: This letter is to authorize (Contractor Name), of (Company Name), (Company Address), online access to the (Agency/University) COA documents and process.

Example #2: This letter is to authorize (Contractor Name), of (Company Name), (Company Address), online access to the (Agency/University) COA documents, process, and to serve as the primary point of contact in all COA matters.

Section 3: Permissions

I am requesting the ability to draft, update, and commit COAs on behalf of the agency/university listed above.

I will be applying to

| Civil | Public COAs (Public COAs require a letter of declaration) |

Section 4: UAS Operation(s)

Area of Responsibility (AOR)

In this section please indicate the county and state where the UAS will operate.

Provide us with a reason why you are using a UAS.

Example #1: I will submit COA applications for the (Name of University) which is developing a UAS program to address law enforcement and emergency response applications.

Example #2: I am a UAS operator and the UAS Tier 1 Projects Officer for Marine Corps Systems Command and will be conducting flight demonstrations for VIP visitors. (SES and Flag officers). I will need to establish an account in order to create COA requests.

Example #3: I will submit COA applications for the (Name of University) which is developing a UAS program for the purpose of research and development. Initially research efforts will focus on agricultural applications but eventually will move into other areas of UAS technology development and applications.

Example #4: I just started working UAS Airspace issues for the Air Force Special Operations Command. I will need to establish an account in order to create COA requests.
### Appendix B

*City of Pearland Declaration Letter*

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### Appendix C

#### Mavic 2 Enterprise

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Climb Rate</td>
<td>984 ft/min</td>
</tr>
<tr>
<td>Decent Rate</td>
<td>590.1 ft/min</td>
</tr>
<tr>
<td>Turn Rate</td>
<td>6000 deg/min</td>
</tr>
<tr>
<td>Bank Angle</td>
<td>25 deg</td>
</tr>
<tr>
<td>Min Cruise Speed Kts:</td>
<td>0kts</td>
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<tr>
<td>Max Cruise Speed Kts:</td>
<td>39kts</td>
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<tr>
<td>Approach Speed Knots:</td>
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</tr>
<tr>
<td>Range Nautical Miles:</td>
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</tr>
<tr>
<td>Launch Method</td>
<td>Vertical Take Off</td>
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<tr>
<td>Gross Takeoff Weight:</td>
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<tr>
<td>Recovery Method</td>
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#### Phantom 4 Pro V2

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<tbody>
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<tr>
<td>Decent Rate</td>
<td>590.1 ft/min</td>
</tr>
<tr>
<td>Turn Rate</td>
<td>9000 deg/min</td>
</tr>
<tr>
<td>Bank Angle</td>
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<tr>
<td>Min Cruise Speed Kts:</td>
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<td>Max Cruise Speed Kts:</td>
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<tr>
<td>Minimum Altitude MSL:</td>
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</tr>
<tr>
<td>Approach Speed Knots:</td>
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</tr>
<tr>
<td>Range Nautical Miles:</td>
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</tr>
<tr>
<td>Launch Method</td>
<td>Vertical Take Off</td>
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<td>Gross Takeoff Weight:</td>
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<td>Endurance HH:MM:</td>
<td>00:30</td>
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<td>Recovery Method</td>
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#### DJI Inspire 2

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</tr>
<tr>
<td>Decent Rate</td>
<td>590.1 ft/min</td>
</tr>
<tr>
<td>Turn Rate</td>
<td>9000 deg/min</td>
</tr>
<tr>
<td>Bank Angle</td>
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<tr>
<td>Min Cruise Speed Kts:</td>
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<td>Max Cruise Speed Kts:</td>
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<td>Approach Speed Knots:</td>
<td>0</td>
</tr>
<tr>
<td>Range Nautical Miles:</td>
<td>4.3</td>
</tr>
</tbody>
</table>
Launch Method: Vertical Take Off
Gross Takeoff Weight: 7.58lbs
Endurance HH:MM: 00:27
Recovery Method: Vertical Landing

**Matrice M200 Series V1**

- Climb Rate: 984 ft/min
- Decent Rate: 590.1 ft/min
- Turn Rate: 9000 deg/min
- Bank Angle: 25 deg
- Min Cruise Speed Kts: 0kts
- Max Cruise Speed Kts: 82kts
- Max Altitude MSL: 19685 Ft
- Minimum Altitude MSL: 0
- Approach Speed Knots: 0
- Range Nautical Miles: 4.3
- Launch Method: Vertical Take Off

Launch Method: Vertical Take Off
Gross Takeoff Weight: 9.98lbs
Endurance HH:MM: 00:38
Recovery Method: Vertical Landing

**Matrice M200 Series V2**

- Climb Rate: 984 ft/min
- Decent Rate: 590.1 ft/min
- Turn Rate: 7200 deg/min
- Bank Angle: 25 deg
- Min Cruise Speed Kts: 0kts
- Max Cruise Speed Kts: 81kts
- Max Altitude MSL: 9842 Ft
- Minimum Altitude MSL: 0
- Approach Speed Knots: 0
- Range Nautical Miles: 5
- Launch Method: Vertical Take Off

Launch Method: Vertical Take Off
Gross Takeoff Weight: 10.33lbs
Endurance HH:MM: 00:38
Recovery Method: Vertical Landing
June 20, 2018

This letter is to address the Pearland Police Department UAS COA Case for the Airworthiness Certificate of all sUAS employed by the Pearland Police Department.

The airworthiness of all DJI sUAS have been determined to be airworthy based on the testing data and evaluation data provided by DJI and the review by the Pearland Police Department. The UAS is serviceable and airworthy for the intended use as advertised by DJI subject to the warranties and representations offered by DJI. DJI has advised that the testing and evaluation of the UAS was conducted in compliance with airworthiness certification criteria established by DJI.

The Pearland Police Department will maintain a continued Airworthiness program that includes maintenance and training of the UAS and will be maintained in an airworthy condition to conduct flights in the National Airspace System.

The attached page addresses the warnings and limitations of the UAS.

The point of contact for the Pearland Police Department is Police Officer Brandon Karr, BKarr@Pearlandtx.gov, (281) 997-4261.

Appendix E

Blanket Class G COA

Jurisdictional COA