

Seattle Police Department

Unmanned Aerial System

Operations Manual

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DRAFT

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1. Preface

The following procedures are intended to promote safe, efficient and lawful operation of the Seattle Police Department's unmanned aerial system (UAS). Safety, above all else, is the primary concern in each and every operation, regardless of the nature of the mission.

2. Philosophy & Mission Statement

It shall be the mission of those personnel of the Seattle Police Department who are trained in the use of unmanned aerial systems (UAS), to use this resource to protect the lives and property of citizens and first responders in a constitutionally and legally sound manner. Use of an aerial system can be utilized in circumstances which would save life and property, as well as being able to detect possible dangers that could not otherwise be seen.

The use of UAS's is quickly growing but had it been available during large catastrophes such as hurricane Katrina, it would have had a large impact on all aspects of emergency response when personnel were in short supply.

UAS's can support any responder in any all-hazards incident that would benefit from an aerial perspective. Additionally, the UAS would have suitable uses in locating and apprehending subjects, missing persons, search and rescue operations as well as any task that can best be accomplished from the air in an efficient and effective manner.

It shall be the intent of every UAS operator to make reasonable effort to not invade a person's reasonable expectation of privacy when operating the UAS. When operating the UAS, the Seattle Police Department will abide by all FAA Regulations for flight and receive the proper authorization for flight. Additionally, the need, availability and use of the UAS will not supersede the issuance of a warrant when needed.

3. Protection of Rights and Privacy

UAS unit Commanders, operators and observers will have the protection of citizens civil rights and reasonable expectations of privacy as a key component of any decision made to deploy the UAS. UAS operators and observers will ensure and will be held accountable for ensuring that operations of the UAS intrude to a minimal extent upon the citizens of Seattle. To accomplish this primary goal we will:

- a) a) When the UAS is being flown the onboard cameras will be turned so as to be facing away from occupied structures, etc to minimize inadvertent video or still images of uninvolved persons.
- b) All video and still images will be maintained in strict compliance with SPD policies and procedures.
- c) A website for public input will be maintained and regularly monitored to address citizen concerns and recommendations
- d) The SPD UAS unit will not conduct random surveillance activities. The use of the UAS will be tightly controlled and regulated.
- e) The authorized missions for the SPD UAS are:
 - a. Video/photographs for investigative support (TCI, Homicide, ABS)
 - b. HAZMAT Response
 - c. Search and Rescue
 - d. Barricaded persons
 - e. Traffic collisions
 - f. Disaster Response (Flood, earthquakes, etc.)

All other requested uses will be approved by the Special Operations Bureau Chief prior to accepting the mission.

- f) A committee will be formed and meet semi-annually for the purpose of reviewing the existing UAS procedures as well as new technologies and laws and regulations on UAS usage. The committee will consist of personnel from SPD UAS, professional standards section and patrol representatives. The committee will present all proposed policy and procedures changes to the City Council, legal and community groups, and will solicit feedback prior to changing any policy changes.
- g) The SPD UAS program will operate strictly within the law and regulations. If in doubt, prior to operating the UAS we will ensure that warrants are applied for and obtained. We will balance all operations with the need to accomplish the mission while maintaining public privacy and the freedom from intrusion.

4. Definitions

- a) *COA* (Certificate of Authorization) – Given by the FAA which grants permission to fly within specific boundaries and perimeters. Training flights cannot take place without a valid T&E (training & evaluation) COA and missions cannot take place without a valid operational / emergency COA.

5. Administration

5.1 Operations Manual

- a) The policies and procedures contained in this manual are issued by authority of the Chief of Police. As such it is an official document of the Seattle Police Department.
- b) This manual is not intended to be all-inclusive, but as a supplement to other department guidelines, Federal Aviation Administration regulations, aircraft manufacturers' approved flight manual, etc.
- c) Manual has been written to address UAS operations as they existed when it was drafted. Equipment, personnel, environment (internal and external), etc., change over time. The management of change involves a systematic approach to monitoring organizational change and

is a critical part of the risk management process. Given this, it is essential that this manual be continually updated as necessary. The entire manual will be reviewed, at a minimum, annually to assure it is up to date. Any changes to the manual will be communicated as currently dictated by department policy.

- d) A copy of the manual (electronic and/or paper) will be issued to every person having UAS responsibilities.

5.2 Organization

- a) The UAS unit shall be comprised of those personnel approved by the Special Operations Bureau Chief and includes operators, observers and others deemed necessary such as IT personnel, and an have assignment as part of the UAS unit.
- b) The UAS unit will be comprised of officers who are on-duty during core business hours.
- c) Assignment to the UAS unit is voluntary. Primary UAS Operators understand that no stand-by is paid. If UAS Operators are requested to respond for a UAS deployment they will be compensated in accordance with the current SPOG contract.

5.3 Personnel

- a) The Special Operations Bureau Chief is responsible for the overall direction and performance of the Homeland Security and UAS unit and will exercise command and control over both.
- b) The Arson/Bomb/CBRNE Unit commander is responsible for the day to day supervision and command of the UAS unit.
- c) UAS Coordinator
 - i. Responsibilities: 1) maintaining all training, flight and maintenance records for each operator and observer as well as individual airframes, 2) maintain contact with the FAA and regulations as they change, 3) evaluate airframes based on mission needs. 4) The UAS Coordinator must maintain a current class II flight physical and proficiency on all UAS operated by the unit. 5) Post a mission summary to media outlets after first obtaining authorization from UAS commander.
- d) Operators
 - i. To be considered for selection as an operator, applicants are not required to already possess a Class II FAA certification (private pilots) or a Class II FAA physical examination. Applicants must meet the requirements for and successfully pass a class II flight physical in order to be accepted into the UAS unit.
 - ii. Operators interacting with Air Traffic Control (ATC) shall have sufficient expertise to perform that task readily. Operators must have an understanding of, and comply with FAA and Military Regulations applicable to the airspace where the UAS will operate. Operators must have in their possession a current second class (or higher) airman medical certificate that has been issued under 14 CFR 67, Medical Standards and Certification, or a military equivalent. 14 CFR 91.17, Alcohol or Drugs, applies to UAS operator testing.
 - iii. An operator's primary duty is the safe and effective operation of SPD's UAS in accordance with the manufacturers' approved flight manual, FAA regulations and agency policy and procedures. Operators must remain knowledgeable of all FAA regulations; UAS manufacturer's flight manual and bulletins and SPD policy and procedures.
 - iv. Operators may be temporarily removed from flight status at any time by the UAS Commander, for reasons including performance, proficiency, physical condition, etc. Should this become necessary, the operator will be notified verbally and in writing of the reason, further action to be taken and expected duration of such removal.

- v. The department UAS Coordinator shall maintain a file for each operator which shall include copies of FAA certifications, training records, etc. This file will be reviewed in accordance with current SPD policy and procedures.
- e) Observers
 - i. To be considered for selection as an observer, applicants are not required to already possess a Class II FAA certification (private pilots) or a Class II FAA physical examination.
 - ii. Observers must have been provided with sufficient training to communicate clearly to the operator any turning instructions required to stay clear of conflicting traffic. Observers will receive training on rules and responsibilities described in 14 CFR 91.111, Operating Near Other Aircraft, 14 CFR 91.13, Right-of-Way Rules, cloud clearance, in-flight visibility, and the pilot controller glossary including standard ATC phraseology and communication. Observers must have in their possession a current second class (or higher) airman medical certificate that has been issued under 14 CFR 67, Medical Standards and Certification, or a military equivalent. 14 CFR 91.17, Alcohol or Drugs, applies to UAS observers.
 - iii. An observer's primary duty is to operate the UAS's equipment including cameras, FLIR, radio communications with patrol units as well as be an observer for anything that may affect the operator's primary duty (see and avoid).
 - iv. The department UAS Coordinator shall maintain a file for each observer which shall include copies of FAA certifications, training records, etc. This file can be reviewed in accordance with current SPD policy and procedures.

5.4 Facilities

- a) UAS operations will be housed and maintained at a facility designated by the Special Operations Bureau Chief.
- b) Personnel will not leave the designated facility without making sure the UAS equipment is secured.
- c) All personnel are equally responsible for maintaining the facility in a neat, clean and orderly fashion.

5.5 Scheduling

- a) To facilitate the broad use of the UAS, it shall be made available to all patrol and all investigations bureau personal.
- b) To maintain a level of proficiency with the UAS, operators will be required, as part of their acceptance into the UAS unit, to attend training every two months. Training will be coordinated through the UAS Unit and announced in advance for scheduling purposes.

5.6 Miscellaneous

- a) Inquiries from the news media will be forwarded to the Public Information Unit. Operators/Observers shall follow currently established department policy regarding interactions and inquiries from the media.
- b) Requests for support from other government agencies within, or outside the City of Seattle will be responded to by the Special Operations Bureau Chief for consideration. Should the request involve an immediate threat to life, or property, the operator is authorized to accept or decline the request. Proper policy and procedure, as well as FAA regulations shall be followed when accepting mutual aid support for the UAS.
- c) Complaints or inquiries regarding UAS operations shall be referred to the Office of Professional Accountability (OPA)

- d) Operators/Observers who deploy or are contacted outside of their normal work hours shall be compensated per their current collective bargaining agreement.

6. Safety

6.1 Safety Policy

- a) The Seattle Police Department is committed to having a safe and healthy workplace, including:
 - i. The ongoing pursuit of an accident free workplace, including no harm to people, no damage to equipment, the environment and property.
 - ii. A culture of open reporting of all safety hazards in which management will not initiate disciplinary action against any personnel who, in good faith, disclose a hazard or safety occurrence due to unintentional conduct.
 - iii. Support for safety training and awareness programs.
 - iv. Conducting regular audits of safety policies, procedures and practices.
 - v. Monitoring the UAS community to ensure best safety practices are incorporated into the organization.
- b) It is the duty of every member within the UAS unit to contribute to the goal of continued safe operations. This contribution may come in many forms and includes always operating in the safest manner practicable and *never taking unnecessary risks*. Any safety hazard, whether procedural, operational or maintenance related should be identified as soon as possible after, if not before, an incident occurs. Any suggestions in the interest of safety should be made to the UAS unit Chain of Command.
- c) If any member observes, or has knowledge, of an unsafe or dangerous act committed by another member, the Special Operations Bureau Chief is to be notified immediately so that corrective action may be taken.

6.2 Operational Hazard and Occurrence Report (OHOR) and Investigations

- a) Occurrences are unplanned safety related events, including accidents and incidents that could impact safety. A hazard is something that has the potential to cause harm. The systematic identification and control of all major hazards is foundational to safety.
- b) The OHOR concept provides a mechanism to report hazards and occurrences, real and perceived, to those responsible for UAS operations.
- c) There is no specific format for the OHOR as the information provided is what is important, not the format and should be used without hesitation to report any anticipated, current, or experienced safety hazard, or occurrence. Further, the OHOR can be submitted anonymously, and to whatever level in the chain of command, to get the matter proper attention, without fear of reprisal.
- d) Written memorandums fully explaining the problem will be given to the Special Operations Bureau Chief for investigation.
- e) Every hazard and/or occurrence will be investigated, with the results and corrective action taken communicated to all members. The investigation will be conducted by a supervisor, under the direction of the Special Operations Bureau Chief, or any other member of the department who has the technical skill necessary to do it. The services of an independent subject matter expert may be necessary in some cases to assure a thorough and complete investigation.
- f) Hazards requiring immediate attention will be brought to the attention of the Special Operations Bureau Chief or direct supervisor, verbally, without delay.

- g) ALL MEMBERS ARE AUTHORIZED TO TAKE ACTION TO CORRECT A HAZARD if in that member's opinion delay will result in accident or injury. The UAS unit chain of command will be notified immediately in such situations.

6.3 Safety Officer - Operator/Observer/Supervisor

- a) In regards to safety, all members of the UAS unit are responsible for the following:
 - i. Ensuring all flight operations personnel understand applicable regulatory requirements, standards and organizational safety policies and procedures.
 - ii. Observe and control safety systems by monitoring all operations.
 - iii. Review standards and the practices of department personnel as they impact operational safety.
 - iv. Communicate all reported safety related problems and the corrective action taken. If there were any in-flight problems (or learned experiences), the proper procedures for handling that problem should be discussed.
 - v. Copy and circulate pertinent safety information.
 - vi. Copy and circulate emergency safety bulletins.
 - vii. Place any electronic copies of safety information or bulletins on the SPDUAS SharePoint site for members to access.
 - viii. It is emphasized again that safety is the responsibility of ALL members of the UAS unit.

6.4 Safety Training

- a) All members shall receive training in the following subjects prior to operating the UAS:
 - i. Agency commitment to safety
 - ii. Agency policy
 - iii. UAS member's role in safety
 - iv. Emergency safety procedures
- b) All members shall review the department safety policy and procedures on an annual basis and that review shall be noted in their training history.

6.5 Medical Factors

- a) Operator and Observers shall only deploy the UAS when rested and emotionally prepared for the tasks at hand.
- b) Physical illness, exhaustion, emotional problems, etc., can seriously impair judgment, memory and alertness. The safest rule is not to act as an operator or observer when suffering from any of the above. Members are expected to "stand down" when these problems could reasonably be expected to affect their ability to perform flight duties.
- c) A self-assessment of physical condition shall be made by all members during pre-flight activities.
- d) Performance can be seriously hampered by prescription and over the counter drugs. The UAS commander will be advised anytime such drugs are being taken. If it is determined that the medication being taken could hamper an operator or observer, that member shall be prohibited from the deployment or exercise.
- e) No member shall act as an operator or observer within eight hours after consumption of any alcoholic beverage, while under the influence of alcohol, or while having an alcohol concentration of 0.04 (FAR 91.17)

7. Training

7.1 Objective

- a) The key to continued safe operations is by maintaining a professional level of competency. The first step in this process is establishing minimum qualifications for selecting members, and the second step involves training those personnel.

7.2 Instructors

- a) If any members are FAA certified flight instructors, they will be given instructor duties. Such duties can include developing training courses, provide training and student evaluation and documentation.
- b) Duties of instructing new members shall fall upon those who have the most flight time and knowledge of UAS operations. Instructors will be designated by those within the unit and approved by the UAS Commander.

7.3 Training Plans

- a) All members will have a training plan on file that outlines training objectives for the upcoming year. This training plan will be held in conjunction with the member's normal training file per department policy.
- b) The approved training plan will be developed jointly by the supervisor, UAS members and the department's training unit.
- c) All deployments or exercises will be documented and count toward a member's training.
- d) It is the member's responsibility to verify their training file contains all pertinent information.

7.4 Initial Training (per UAS Interim Operational Approval Guidance 08-01)

- a) Upon acceptance to the UAS unit, the new member shall acquire an FAA Class 2 (or higher) airmen medical certificate.
- b) Observers must have completed sufficient training to communicate to the pilot any instructions required to remain clear of conflicting traffic. This training, at a minimum, shall include knowledge of the rules and responsibilities described in 14 CFR 91.111, *Operating Near Other Aircraft*; 14 CFR 91.113, *Right-of-Way Rules: Except Water Operations*; and 14 CFR 91.155, *Basic VFR Weather Minimums*; knowledge of air traffic and radio communications, including the use of approved ATC/pilot phraseology; and knowledge of appropriate sections of the *Aeronautical Information Manual*.
- c) Operators will enroll in appropriate training (fixed wing) in order to obtain their private pilot license/certificate if not already in possession of one (either fixed wing or rotorcraft).
- d) In conjunction with fulfilling all FAA requirements for operator/observer duties, the new member will also become familiar with UAS operations, the aircraft and its equipment.
- e) Any new member who fails to successfully complete the initial training may be denied as a member of the UAS unit.
- f) Before a member can fly as an operator, they must complete at least 8 hours of flight training with the UAS instructors to show proficiency of the flight training exercises and the airframe. This must be accomplished to show their ability and knowledge of the UAS.

7.5 Recurrent Training

- a) All members within the unit shall maintain proficiency in their operator/observer abilities. Members who do not have any documented training or flight time within a span of 90 days will have to show proficiency before being an operator/observer during a deployment or exercise.

- b) Recurrent training is not limited to actual operating/observer skills but includes knowledge of all pertinent UAS/aviation matters.
- c) Failure to prove proficiency can result in removal from UAS responsibilities.

7.6 Miscellaneous

- a) Depending on the nature of the training request, all efforts will be made to accommodate the hours of training so as little impact is made to staffing levels.
- b) All requests for training shall be approved through the member's chain of command and timekeeping during those training hours will be marked by the member's supervisor.
- c) Members are encouraged to attend, and forward information on FAA sponsored safety seminars and may do so while on-duty with the approval of their chain of command.
- d) Unless approval is obtaining in writing in advance, overtime will not be authorized for training.
- e) Training shall only be conducted at approved locations and follow the provisions within the approved FAA COA.

8. General Operating Procedures

8.1 Request for UAS Support

- a) Requests for UAS support shall be made through SPD Dispatch who will have the most current list of UAS operators and supervisors to contact.
- b) Requests for UAS support can made at any time during the day or night.
- c) If a request is made for UAS support during non-core business hours, SPD Dispatch will contact a UAS supervisor with the phone numbers provided.

8.2 Call-out Procedure

- a) A supervisor will screen all initial requests to use a UAS from patrol or investigation units.
- b) The approving supervisor will then contact the SPD Chief Dispatcher to request the deployment of the UAS.
- c) The Chief Dispatcher will contact the UAS unit commander or designated representative who will screen the request using the following factors:
 - i. Is the proposed use of UAS within the capabilities of the UAS equipment and personnel to perform?
 - ii. Does the proposed use of the UAS fall within the FAA and department policies and regulations for UAS usage?
 - iii. Can the UAS be deployed safely given current weather conditions?
 - iv. If the UAS deployment requires a warrant has one been requested and approved?
 - v. Are sufficient trained and qualified personnel available to safely operate the UAS?
- d) The UAS Unit Commander will either accept or decline the request for UAS support. If the request is denied the UAS unit commander will provide a reason for declining the support request to the Chief Dispatcher who will provide the requestor this information along with the reason for declining. If the UAS Unit Commander accepts the support request they will contact a UAS operator who will be provided all available mission information.
- e) The UAS operator will either contact a certified observer from the list of available trained observers or request through the dispatcher that a broadcast be made requesting a UAS observer meet the UAS operator at the scene. The UAS operator is responsible for transporting the UAS and all required equipment to the scene. Upon arriving at the requested location the UAS operator will contact the on scene Incident Commander and will check in and receive a briefing on the mission requested. The UAS operator will make an on scene

- determination of the ability of the UAS to perform the requested mission safely and within department and FAA policies and procedures.
- f) If the UAS operator determines that the use of the UAS would violate department policy or directives then the UAS operator will inform the Incident Commander of the potential conflict along with recommendations for modifying the requested mission to conform to the department policies and procedures. As this is a change from the original approved mission the UAS operator will contact the UAS unit chain of command for direction on how to proceed. As soon as possible after the completion of the mission, the UAS operator will make a full report of the circumstances and their concern through the chain of command.
 - g) UAS operators will have sole discretion for declaring safety or violation of FAA rules. If the UAS operator determines that a requested mission would violate FAA rules or endanger civilians, then the UAS operator will respectfully inform the Incident Commander of the reasons for refusing to operate the UAS and contact the UAS chain of command immediately. The UAS will not be flown in this circumstance and the authority of the UAS operator is absolute.
 - h) If the UAS operator determines that the requested mission will potentially damage the UAS or its associated equipment the UAS operator will inform the Incident Commander of their concerns. If the Incident Commander orders the UAS operator will contact the UAS unit chain of command as this is a deviation of the originally approved mission. The UAS operator will fully document and send a report to the Chain of Command.

8.3 Deployment Priorities

- a) The UAS shall not be used for the purpose of random surveillance.
- b) If several separate requests for UAS support are received simultaneously, they shall be prioritized.
- c) In general terms, requests for UAS support are prioritized as:
 - Life Safety
 - Evidence / Documentation

8.4 Flight Boundaries

- a) Although there may be requests for UAS support outside the City of Seattle, the certificate of authorization for our UAS restricts UAS deployment outside the City of Seattle and further restricts the proximity of flight to other locations such as Boeing Field.
- b) At no time shall UAS support be granted outside the City of Seattle without first obtaining an emergency FAA COA and approval by the Special Operations Bureau Chief
- c) Information regarding flight boundaries can be found in the FAA COA and the use of a Seattle VFR Terminal Area Chart.
- d) Maximum altitude shall not be set more than 400' per the FAA COA.

8.5 Minimum Personnel Requirements

- a) Due to the nature of the law enforcement mission, the minimum personnel required on ALL missions will be an operator and observer. Under no circumstances will an operator attempt to complete a deployment alone.
- b) Although training is not considered a mission, an observer shall be used.

8.6 Personnel Responsibilities for Deployments

OPEN COMMUNICATION ACHIEVES SAFE OPERATIONS

- a) Operator
 - i. The operator is directly responsible for, and is the final authority over the actual operation of the UAS.

- ii. Operators have absolute authority to reject a flight based on personnel safety or violation of FAA regulations. No member of the police department, regardless of rank, shall order an operator to make a flight when, in the opinion of the operator, it poses a risk to personnel or is in violation of FAA regulations.
 - iii. Operators are responsible for compliance with this manual, department policy and procedure and FAA regulations.
 - iv. The operator's main duty during the deployment of the UAS is to operate the UAS safely while accomplishing the goals of the deployment.
 - v. Operators shall see-and-avoid any obstacle that will lessen safety during the mission.
 - vi. Operators shall be responsive to the requests of the observer in order to accomplish the deployment.
 - vii. Operators shall be responsible for documentation for mission training and updating of flight books.
- b) Observer
- i. Observers shall see-and-avoid any obstacle that will lessen safety during the mission.
 - ii. Observers are responsible for the law enforcement aspect of the deployment.
 - iii. Observers shall operate any attachments to the UAS, allowing the operator to maintain complete focus on the operation of the UAS.
 - iv. Observers shall remain alert for suspicious persons or activities on the ground and coordinate response by ground units.
 - v. Observers shall monitor the radio updates.
 - vi. Observers shall assist the operator in the main objective of safe operations of the UAS.
 - vii. Observers shall be responsible for documentation for mission training and updating of flight books.

8.7 Personal Equipment

- a) Operators/Observers shall wear eye protection at all times while the UAS is in flight.
- b) Although there is no specific uniform for the UAS unit or required for proper operation of the UAS, the operator/observer should take necessary measures to deploy in a professional matter and take into consideration that all deployments are subject to PDR's and may be media present.
- c) Operators/Observers will take into consideration the current weather conditions when planning to deploy, and wear appropriate clothing to deploy comfortably.
- d) There are no documented issues with the use of the radio or cellular phones during the deployment of the UAS, but the operator/observer should at all time take into consideration safe operation of the UAS when using the radio or another device. (Use of the radio or other device is strictly prohibited by the operator during flight per the COA.)
- e) Operators/Observers shall wear clothing that easily identifies them as Seattle Police Department Officers.

9. Pre-Flight/Post-Flight Actions

9.1 Inspections

- a) Operators/Observers are both responsible for a thorough preflight inspection of the UAS.
- b) Before and after each deployment (whether an incident or training), the operator and observer shall conduct a thorough inspection of the UAS in accordance with the instructions contained in the manufactures user's manual.

- c) Any issues found that will put in jeopardy the safe operation of the UAS shall be documented and resolved immediately prior to flight.
- d) It has been recognized that the use of a checklist is a significant method to combat UAS accidents. A pre-flight and post-flight checklist is contained in the Base Station and will be utilized prior to each flight.
- e) Any physical equipment that cannot be resolved on-site, and which have an impact on safety or the mission, will override the deployment. These issues will be resolved before flight.

9.2 Weather

- a) Before each deployment the operator/observer will ensure that he/she gathers enough information to make themselves familiar with the weather situation existing throughout the area of deployment. The operator shall utilize FAA approved weather resources to obtain the latest and most current weather conditions.
- b) An anemometer should be utilized in order to better estimate the wind speed and determine if it is within the capabilities of the airframe being flown.
- c) Operators/Observers should use the Beaufort Scale when making deployment decisions in regards to wind conditions. This scale can be located in the manufacture's user's manual.
- d) The weather conditions reported for the operation shall be recorded in the flight log.
- e) The operator shall ensure that the flight will occur within FAA VFR weather requirements.

9.3 Documentation and Evidence

- a) Inspection and weather will be documented prior to flight within the log book.
- b) After each flight, the operator will complete a statement documenting the UAS operations.
- c) After each deployment, all video obtained by the UAS Operation will be submitted to evidence in accordance with department policy 7.030 – *Photographic Imaging*.
- d) Aerial photography (still or video) shall be stored in accordance to department policy and procedure 17.260 – *In-Car Video*.
- e) The operator of the UAS is responsible for evidence handling as well as writing any supporting documentation (GO) for the incident.

9.4 Planning

- a) The operator/observer shall familiarize themselves with all available information concerning the deployment including, but not limited to, the weather conditions, hazards, description of the incident, deployment goals, etc.
- b) Operators will ensure that the location for take-off and emergency landing is adequate for a safe deployment.
 - i. The take-off/landing location should be clearly marked and identifiable with electric flares and short cones.
 - ii. At least one emergency landing area should be identified per deployment.
- c) Operators will ensure that they are aware of their surroundings in the event that an emergency landing is necessary. This includes the ability to recover the UAS.

9.5 Checklists

- a) Operators shall utilize the checklists to ensure the highest level of safety for deployment.
- b) Prior to flight, the flight log shall be initiated.

9.6 Maintenance

- a) Although there are few parts on the UAS that need servicing, it is necessary that the manufacturer's maintenance schedule is followed and properly documented.

- b) Any issues that arise during maintenance that cannot be resolved by routine methods shall be forwarded to the manufacturer for further technical support.

9.7 Other

- a) Operators/Observers will ensure that no items are attached to the UAS prior to flight that are not required for safe operation and to complete the mission goal.