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UNMANNED AIRCRAFT SYSTEMS
PROGRAM MANUAL

Illinois Department of Transportation

Unmanned Aircraft Systems Program Manual

Prepared and Published by

Office of Intermodal Project Implementation, Aeronautics

Office of Highways Project Implementation, Bureau of Design & Environment

Office of Highways Project Implementation, Bureau of Operations

Springfield, Illinois

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INTRODUCTION

This manual establishes Standard Operating Procedures (SOPs), directions, and guidelines for managing and implementing the Illinois Department of Transportation (IDOT) Unmanned Aircraft System (UAS) program. The objective of this manual is to provide standardization in the use of UASs, reporting procedures, flight operations, UAS maintenance, personnel selection, criteria, and training procedures, and to ensure IDOT UAS are used in an effective, efficient, and safe manner.

This manual is issued by the authority of the Secretary of Transportation and is a supplement to *Departmental Order 11-05: Order on Unmanned Aircraft Systems*, Federal Aviation Administration (FAA) Regulations, State laws, and aircraft manufacturer's operating manuals and training.

All personnel authorized to participate as a member of a UAS flight, either as a Remote Pilot-In-Command (RPIC), Visual Observer (VO), or Remote Operator (RO), will have access to an electronic copy and be responsible for following the SOPs outlined in this manual.

UAS personnel are encouraged to submit ideas related to the UAS Program and/or suggestions for improving the manual to UAS Program Management at DOT.AERO.UAS@illinois.gov.

DOCUMENT CONTROL AND REVISION HISTORY

The Unmanned Aircraft Systems (UAS) Program Manual is reviewed during use for adequacy and updated by the Office of Intermodal Project Implementation (OIPI), Division of Aeronautics, and Office of Highways Project Implementation (OHPI), Bureau of Design and Environment as necessary to reflect current policy. Both areas will review and approve changes prior to republication. Necessary revisions will be provided by the UAS Program Manager or their designee. When a change is made within a Section of this manual, tracking will be turned on in the margins to denote where changes have been made from the previous manual version. The approval process for changes to this manual is conducted in accordance with the document control standards outlined in *Departmental Order 01-01: Policy Administration Program* and in this manual.

This manual is intended to be used electronically as it includes hyperlinks within and resources external to the document. Portable Document Format (PDF) has been selected as the primary distribution format, and the official version of the manual is available on the PowerDMS Policies & Publications Center.

The information contained in this manual is current as of the date of issuance. Employees are responsible for ensuring use of the most current version of any document. All current policy documents are available on the PowerDMS Policies & Publications Center.

Date	Description	Approval
May 2025	New Manual	Clayton Stambaugh

SECTION 1. ADMINISTRATION

1-1 INTRODUCTION

Departmental Order (DO) 11-05: Order on Unmanned Aircraft Systems establishes the Illinois Department of Transportation (IDOT) Unmanned Aircraft Systems (UAS) program and provides high-level guidance on UAS operations conducted by the department, as well as outlines the responsibilities and oversight for the UAS Program. This manual provides more detailed policies and standard operating procedures for the successful implementation of the UAS Program.

1-2 POLICY

Per *DO 11-05*, it is the policy of the department to use Unmanned Aircraft Systems (UAS) in support of the department when in the best interest of the State. UAS, commonly referred to as "drones," are an innovative data-collection platform that enables the department to gather valuable field data, traffic data, and informational data in support of its overall mission to provide safe, cost-effective transportation solutions for the traveling public. The department is committed to the implementation of advanced technologies, including UAS, to enhance both traveling public and employee safety, increase staff efficiency, and improve the quality of services it provides.

A. The department will establish guidelines for the operation and maintenance of UAS.

B. Department personnel authorized to operate the UAS, as determined by the UAS Program Manager or their designee, will generally respond to requests for assistance on projects that meet the requirements outlined in *DO 11-05*.

1-3 PURPOSE

The purpose of this manual is to establish guidelines and protocols regarding departmental use of UAS. The department is dedicated to providing guidance and support to ensure all internal and contracted personnel authorized to participate as a department UAS Crew Member have the necessary information and documentation to provide safe, reliable and professional UAS support to all of IDOT; other local, state, and federal agencies; and the citizens of the state of Illinois.

Additional guidelines and protocols may be established by other business areas within the department regarding specific workflows, procedures, and data output resulting from the use of UAS. If individual guidance from a specific business area conflicts in any way with this manual, the UAS Program Manual shall take precedence.

1-4 AUTHORITY

A. *Public Law 112-95, Title III, Subtitle B – Unmanned Aircraft Systems* (Federal Aviation Administration (FAA) Modernization and Reform Act of 2012)

B. *Public Law 114-90, Title II, Subtitle B – UAS Safety* (FAA Extension, Safety and Security Act of 2016)

C. Public Law 118-63, the FAA Reauthorization Act of 2024

D. 14 CFR Part 107 – Small Unmanned Aircraft Systems

E. Departmental Order 11-05: Order on Unmanned Aircraft Systems

1-5 DEFINITIONS

A. *14 CFR Part 107 (Part 107)* – Code of Federal Regulations issued by the Federal Aviation Administration (FAA) for the civil or public operation of UAS.

B. AirData – AirData is the current flight management software utilized by the department for capturing flight log data, including UAS mission pre-flight thru post-flight metadata.

C. Accident – An occurrence associated with the operation of any public or civil UAS that takes place between the time that the system is activated with the purpose of flight and the time that the system is deactivated after its mission, in which:

- Any person suffers death, serious injury, or any loss of consciousness; or
- Damage to any property occurs, other than the unmanned aircraft, unless one of the following conditions is satisfied:

i. The cost to repair (including materials and labor) does not exceed $500; or

ii. The fair market value of the property does not exceed $500 in the event of total loss.

D. Certificate of Authorization (COA) – An authorization issued by the FAA to a public operator for a specific UAS activity.

E. Federal Aviation Administration (FAA) – The division of the United States Department of Transportation that inspects and rates civilian aircraft and pilots, establishes and enforces the rules of air safety, and installs and maintains air-navigation and traffic-control facilities.

F. FAADroneZone – The official FAA website for managing UAS services located at https://faadronezone-access.faa.gov/#/.

G. Flight Hours – The time that is actually spent in flight and is defined as follows:

- The flight hour time period begins when the aircraft leaves the ground for flight. The flight hour time period ends when the aircraft lands to the nearest tenth of an hour. All flight hours with the UAS shall be recorded in the Remote Pilot In-Command (RPIC) flight log within AirData.

H. Incident – An occurrence/mishap, other than an accident, associated with the operation of the aircraft, that affects or could affect the safety of operations. If an incident causes property damage, the cost of repair (including materials and labor) does not exceed $500, or the fair market value of the property does not exceed $500.

I. Low Altitude Authorization and Notification Capability (LAANC) – An automated process to seek and obtain approval for flight in certain areas of Controlled Airspace.

J. National Transportation Safety Board (NTSB) – An independent U.S. government investigative agency responsible for civil transportation accident investigation.

K. Notice to Air Missions (NOTAM) – A notice to pilots, located on the FAA website, containing abnormal information about the status of airspace and advising and warning them of circumstances relating to their flying.

L. Remote Operator (RO) – The person manipulating the controls of the UAS, operating under the direct supervision of the RPIC, but not acting as the RPIC.

M. Remote Pilot-In-Command (RPIC) – An internal or contracted department employee recognized as a UAS Pilot, current in their FAA Remote Pilot Certification, and in charge of a UAS Mission. The RPIC has final authority for a flight and is accountable for all UAS operations within their assigned mission.

N. Safety Stand Down – A temporary suspension of flight operations.

O. Serious injury – Any injury which: (1) Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received; (2) results in a fracture of any bone (except simple fractures of fingers, toes, or nose); (3) causes severe hemorrhages, nerve, muscle, or tendon damage; (4) involves any internal organ; or (5) involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.

P. Temporary Flight Restrictions (TFR) – A type of Notice to Air Missions (NOTAM). A temporary flight restriction defines an area restricted to air travel due to a hazardous condition, a special event, or a general warning for the entire FAA airspace.

Q. UAS Crew Members – Internal or contracted department personnel directly participating in a UAS mission, including the Remote Pilot-In-Command (RPIC), Visual Observer(s) (VO), and/or Remote Operator (RO).

R. UAS Program Manager – The person responsible for the safe operation of the department's UAS Program. The UAS Program Manager is accountable for providing administration and supervision necessary for the department UAS function while overseeing the daily operation of the UAS Program. The UAS Program Manager acts as the policy implementing manager of the UAS Program.

S. UAS Mission – A flight or series of flights conducted during the same general time/location in support of an IDOT project or objective. One mission may consist of multiple individual flights and/or multiple launch/landing locations across a project/objective.

T. Unmanned Aircraft (UA) – An aircraft operated without the possibility of direct human intervention from within or on the aircraft.

U. Unmanned Aircraft System (UAS) – An unmanned aircraft and its associated elements (including communication links and the components that control the unmanned aircraft) that are required for the safe and efficient operation of the unmanned aircraft in the National Airspace System (NAS).

V. Visual Observer (VO) – Person(s) who assists the RPIC to see and avoid other air traffic or objects aloft or on the ground.

1-6 PRESCRIPTIVE LANGUAGE

In this manual, prescription language definitions are used and intended as follows:

- If the word “shall” or “must” is used, the described action or policy is a requirement to be followed by all personnel.

- If the word “should” is used, the described action or policy is a recommended best practice. Personnel are strongly encouraged to use the described action or policy, but substitutes will be accepted if the intent of the requirement is achieved.

SECTION 2. GENERAL POLICIES

2-1 OPERATION OF THE UAS

A. The use of the Unmanned Aircraft System (UAS) shall be in accordance with all Illinois state law, federal law, applicable FAA rules and regulations, and the UAS manufacturer's guidelines.

B. Only the Remote Pilot-In-Command (RPIC) or Remote Operator (RO) shall operate the flight controls of a UAS.

C. The UAS shall only be operated for departmental purposes.

D. The UAS shall only be operated in weather conditions as recommended by the manufacturer and FAA regulations.

E. The RPIC and other UAS Crew Members will be aware of their surroundings and note any obstacles or any other possible dangers in the flight area.

F. In addition to equipment and documents required by the FAA, some type of communication device (i.e., a VHF radio, department-issued radio, or cell phone) will be carried by the RPIC and other UAS Crew Members while operations are underway.

G. Most modern UAS include automated safety enhancement features or functions, such as object detection and collision avoidance, return-to-home, low-battery warning, emergency parachute system, etc. The RPIC is responsible for ensuring available safety enhancement features are enabled and properly configured as appropriate for each mission.

H. The department will utilize the UAS for the following purposes:

1. In support of the department and when in the best interest of the State,

2. To gather data in support of the department's overall mission to provide safe, cost-effective transportation solutions for the traveling public,

3. In the role of a "shared services" UAS resource to other government agencies or entities as the priorities of the department allow, and/or

4. During a disaster or public health emergency. The use of a UAS under this paragraph does not require an official declaration of a disaster or public health emergency prior to use. IDOT may use UAS to obtain information necessary for the determination of whether or not a disaster or public health emergency should be declared, to monitor weather or emergency conditions, to survey damage, or to otherwise coordinate response and recovery efforts. The use of UAS under this paragraph is permissible during the disaster or public health emergency and during subsequent response and recovery efforts.

I. The UAS may be used for training purposes in accordance with this manual. When a UAS is used for training purposes, it shall be utilized in such a way as to respect the privacy of landowners being overflown by the UAS.

2-2 WAIVERS AND AUTHORIZATIONS

The UAS shall only be operated in accordance with *CFR Part 107*, or waivers from *CFR Part 107* approved by the FAA, or approved FAA Certificates of Waiver or Authorization (COA).

A. The RPIC for the specific mission will secure and document Low Altitude Authorization and Notification Capability (LAANC) airspace authorizations, if required.

B. Waivers and airspace authorizations ineligible for LAANC approval, if required, will be coordinated through the UAS Program Manager, or their designee. These should be initiated as soon as practicable, as the FAA processes can take a significant amount of time.

C. No operations may be conducted under a waiver unless the RPIC has received approval from the UAS Program Manager, or their designee, to fly under said waiver.

2-3 SPECTATORS

The presence of spectators during IDOT UAS missions is authorized given compliance with the following provisions:

A. The spectators will receive a safety briefing that addresses the mission intent, safety considerations, non-interference with UAS mission personnel, and emergency procedures in the event of an incident or accident.

B. The spectators will be directed to, and contained within, a specific observation point that minimizes the risk of injury and ensures that they do not interfere with the UAS mission, nor conflict with FAA guidelines.

C. The VO(s) will ensure that spectators do not engage in conversations, discussions, or interviews that distract the RPIC, other UAS Crew Members, or any other personnel involved with the mission, from the performance of their duties or interfere in any way with the proper conduct of those duties.

D. The number of spectators will be limited to that which can be adequately monitored and protected by personnel and resources onsite.

E. UAS operations should be planned to avoid flight over spectators and other non-participants.

2-4 FLIGHT MANAGEMENT SOFTWARE

All UAS Missions conducted with department UAS are required to be recorded within the department's authorized software, currently AirData. AirData is also used to keep track of department UAS pilot certifications and recertification dates.

All department RPICs must have an AirData account established prior to conducting UAS missions. Access to AirData must be requested by emailing DOT.AERO.UAS@illinois.gov.

2-5 DATA AND DOCUMENTATION

A. The RPIC will utilize department-approved software/documentation related to requests, checklists, flight logs, accident/incident reporting, etc.

B. The UAS Program Manager will ensure all required UAS information is reported and/or available to the FAA in a manner acceptable to the FAA Administrator.

C. All original copies of photos or videos will be maintained in a manner determined by the department's record retention policy for such data.

D. The UAS Program Manager or their designee will compile report(s) of department UAS activities, as necessary. The report may include, but not be limited to, UAS Activity Summary, UAS Accident/Incident Summary, UAS Pilot Summary Report, etc.

2-6 ALCOHOL AND DRUGS

No person may act as a RPIC or Crew Member of an IDOT UAS within 8 hours of the consumption of any alcoholic beverages.

Any pilot whose ability to operate a UAS is affected for any reason or by any drug shall not operate a UAS. It is the responsibility of the RPIC and any UAS Pilot to ask their doctor if any prescribed drug or over-the-counter medication will affect their ability to function as a pilot.

2-7 SECURITY OF THE UAS

When not in use, departmental UAS will be stored in a locked and secure location.

2-8 TRANSPORTATION OF THE UAS

Unless special circumstances exist, departmental UAS will be transported in an official state vehicle.

2-9 SECURITY OF UAS FLIGHT REPORTS

All flight data is proprietary to IDOT and cannot be shared externally without approval of the UAS Program Manager, or their designee.

2-10 PROHIBITED USE

Except as provided in Section 2-1, Paragraph H. above, IDOT may not use a UAS for any other purpose other than the mission as intended.

2-11 FLIGHT HOUR LIMITATION

An RPIC may operate a UAS up to 6 hours in a 24-hour period. An extension to this limit may be approved by the UAS Program Manager, or their designee.

SECTION 3. UAS ROLES AND RESPONSIBILITIES

All personnel authorized to participate as a UAS Crew Member and all UAS Program Staff are responsible for ensuring compliance with this manual and other related guidance. This section outlines the staff associated with the UAS Program and UAS missions.

3-1 UAS PROGRAM MANAGER

The UAS Program Manager, or their designee, is the person responsible for the safe operation of the department's UAS Program. The UAS Program Manager is accountable for providing administration and supervision necessary for the department UAS function while overseeing the daily operation of the UAS Program. The UAS Program Manager acts as the policy implementing manager of the department's UAS Program. The UAS Program Manager will also designate and appoint Chief Remote Pilots (CRPs) throughout the department and communicate UAS Program updates to CRPs.

The UAS Program Manager is the primary contact for edits to the UAS Program Manual and other guidance necessary and appropriate to ensure the safe and efficient use of UAS. They work with applicable areas within the agency, notably the Office of Intermodal Project Implementation- Aeronautics and the Office of Highways Project Implementation, Bureau of Design and Environment, to develop documentation and guidance on the UAS program.

The UAS Program Manager, or their designee, may grant operational variances to guidance contained in this manual if the variance can maintain a suitable level of safety. Approved variances of departmental UAS missions should be documented on the applicable AirData flight log.

RESPONSIBILITIES

The UAS Program Manager, or their designee, is directly responsible for:

A. Ensuring the UAS program is in compliance with all FAA regulatory requirements, state laws, and departmental policy.

B. Developing departmental UAS program documentation, including accident/incident reporting and safety procedures.

C. Coordinating with Offices/Bureaus throughout IDOT to identify and select candidates when additional Crew Members are needed.

D. Implementing departmental UAS Crew Member training and development programs.

E. Completing statutory and regulatory reporting requirements for departmental UAS operations.

F. Reviewing, maintaining, and registering all departmental UAS airframes.

G. Coordinating and testing new intra-departmental UAS platforms.

H. Approving all departmental UAS technologies, in coordination with the Office of Intermodal Project Implementation, the Office of Highways Project Implementation, and any other Division/Office within IDOT that utilizes UAS technologies.

I. Designating Chief Remote Pilots and providing communication updates about the UAS Program.

J. Coordinating all FAADroneZone activities, including departmental waiver requests and complex airspace authorizations.

K. Working with department management and leaders across all levels of government and industry to define and implement a statewide strategic vision for unmanned flight.

L. Conducting an annual review (or additionally as needed), of FAA Regulations and the contents of this manual for any necessary updates and/or revisions.

3-2 CHIEF REMOTE PILOT (CRP)

A Chief Remote Pilot (CRP) is an individual designated by the UAS Program Manager to supervise and coordinate UAS crews, operations, and equipment within an assigned area of oversight (i.e. Office, Bureau, District).

CRPs are required to be FAA-certificated Remote Pilots. They should also be familiar with the latest existing technologies and current regulatory landscape and should be knowledgeable as to which platform is best suited for applications relevant to the department's needs.

RESPONSIBILITIES

All department Chief Remote Pilots are responsible for:

A. Supervising and coordinating UAS crews, operations, and equipment within their assigned area of oversight.

B. Coordinating with the UAS Program Manager and additional UAS Program staff.

C. Ensuring personnel authorized to participate as a UAS Crew Member within their area of oversight are aware of any changes or updates to UAS Program policy or operational guidance.

3-3 REMOTE PILOT-IN-COMMAND (RPIC)

A Remote Pilot-In-Command (RPIC) is the Crew Member in charge of the UAS Mission. Like CRPs, RPICs are required to be FAA-certificated Remote Pilots and should be knowledgeable of all applicable FAA regulations, state law, and department policies. RPICs have final authority for a flight and are accountable for all UAS operations within their assigned mission.

The primary duty of the RPIC is the safe and effective operation of UAS in accordance with the manufacturer's approved flight manual, training, FAA regulations, state law, department policy, and standard operating procedures (SOPs).

RPICs must remain knowledgeable of all applicable FAA regulations, state law, and department policies. Only UAS Pilots certified in accordance with FAA regulations and authorized by IDOT policy may act as a UAS Pilot for department missions.

Additional requirements are as follows:

A. All UAS Pilots must successfully complete the FAA *CFR Part 107* UAS Pilot's Knowledge exam.

B. All UAS Pilots must successfully complete the FAA training requirements.

C. All UAS Pilots must receive training administered by the department on agency-specific operational considerations and limitations.

D. UAS Pilots may be temporarily removed from flight status by the UAS Program Manager, or their designee, at any time for reasons including performance, proficiency, etc. A department UAS Pilot may be subject to disciplinary action and/or permanently removed by the UAS Program Manager for cause – i.e., after failed remediation, unsafe behavior, etc.

An RPIC must be designated before a flight and will typically be the same person throughout the mission. UAS Crew Member roles may not be swapped mid-flight, except in an emergency. If, for any reason, the RPIC changes during a mission, it must be properly documented in the flight logs.

The RPIC will make the final decision whether to continue, delay, or cancel the flight due to factors which would affect the safe operation of the flight.

RESPONSIBILITIES

All RPICs are responsible for:

A. Complying with all applicable FAA rules and regulations, federal and state laws, and departmental UAS Program guidance.

B. Ensuring the UAS is operated in accordance with the manufacturer's guidance.

C. Ensuring the safe conduct of flights, including that the UAS will pose no undue hazard to other people, other aircraft, or other property in the event of a loss of control of the aircraft, for any reason.

D. Ensuring their training and certifications are current and in compliance with Federal and departmental requirements and expectations.

E. Performing pre-flight and post-flight activities as listed in the approved flight management software program utilized by the department UAS Program.

F. Conducting a safety briefing with other Crew Members, and any other potentially impacted personnel at the flight location.

G. Direct oversight of the RO(s), when used for the purposes of training.

3-4 VISUAL OBSERVER (VO)

A Visual Observer (VO) is a Crew Member who assists the RPIC during all phases of a UAS mission.

A. VOs enhance overall mission safety and efficiency by providing increased levels of:

- Situational Awareness: Maintains continuous two-way communication with RPIC. Provides feedback regarding the UAS's location, attitude, altitude, and direction of flight. Relays pertinent information to the RPIC related to the conditions of the landing zone, operating environs, etc.
- Risk Mitigation: Assists in non-flying activities, allowing the RPIC to devote greater focus and attention to flying safety.
- Redundancy: Serves as a cross-check for mission-related activities and provides advisory information to assist in decision-making. Listens for and observes any abnormal sound or flight characteristics exhibited by the UAS.
- Obstruction and Hazard Identification: Notifies the RPIC of obstructions and potential hazards throughout all phases of the flight. Adds additional safeguard against the UAS operating in a location or manner that could endanger persons or property.
- Aircraft/Traffic Avoidance: Scans airspace and informs RPIC of aircraft, other UAS, or vehicular traffic in the vicinity.
- Scene Management: Interacts with bystanders and nonparticipants to field questions or handle issues that could negatively impact the RPIC's ability to fully concentrate on the safety and control of the UAS.

B. VO(s) may be tasked with operating UAS equipment, such as cameras or other sensors, providing radio communications, interacting with non-participants, and/or performing other duties to assist the RPIC in safely accomplishing the mission.

C. The VO(s) will assist the RPIC with visual scanning of all obstacles or other dangers in the flight area during UAS flights and will maintain instantaneous communication with the RPIC at all times.

D. The VO(s) will advise the RPIC of any condition which, in his or her opinion, may adversely affect the safe operation of the UAS.

E. If the RPIC is unable to continue the mission due to an emergency, a VO may land the UAS using the Auto Return Home function (if equipped), and the mission will be immediately terminated.

VO(s) are not authorized to operate the flight controls of the aircraft, except under emergency circumstances.

Personnel authorized to act as an RPIC may also act as a Visual Observer for UAS missions. However, non-pilots must receive VO training prior to participating as a UAS Crew Member.

RESPONSIBILITIES

All VO(s) are responsible for:

A. Assisting with the safety of a mission by monitoring the air and ground space during a flight, conveying this information to the RPIC, and assisting the RPIC with additional tasks as needed.

B. Completing VO training, if not a certified FAA Remote Pilot.

3-5 FITNESS FOR FLIGHT

All UAS Crew Members shall continually evaluate their physical and mental condition for any indication which would impair judgment or degrade the ability to safely accomplish the intended mission.

A. The following is a non-exhaustive list of fitness for flight areas (IMSAFE) that should be evaluated:

1. **I**llness
2. **M**edication
3. **S**tress
4. **A**lcohol
5. **F**atigue
6. **E**motion

B. The RPIC shall decline or terminate a flight when that RPIC determines his or her fitness for flight, or the fitness for flight of a required Crew Member, may be less than adequate to maintain a sufficient level of flight safety.

C. Other UAS Crew Members shall remain alert for any indications the RPIC may be less than fit for flight.

1. That person will contact the RPIC directly and notify the UAS Program Manager, or their designee, immediately.

2. The UAS Program Manager, or their designee, will determine if the RPIC is fit for flight. If the RPIC is not fit for flight, the RPIC will be suspended from conducting flights. If the fitness for flight issue is not mitigated within a 24-hour period, the issue will be referred to the UAS Program Manager for further remediation.

3-6 COMMAND AUTHORITY

The Remote Pilot-in-Command (RPIC) is the final authority on the UAS mission. If the RPIC believes a mission cannot be safely accomplished, the RPIC will deny, abort, or terminate the mission.

The RPIC is responsible for making the final determination if the UAS will be flown. At any time, the RPIC may terminate the mission at their sole discretion.

SECTION 4. TRAINING

4-1 PILOT TRAINING

A. All personnel authorized to act as RPIC on UAS missions shall be properly trained and certificated in accordance with the FAA requirements.

1. The RPIC will meet all conditions of *CFR Part 107*.

2. The UAS Pilot will have a current working knowledge of the airspace intended for operations, air traffic control communication requirements, specific UAS aerodynamic factors, and the ability to obtain and interpret weather.

3. All new UAS Pilots will demonstrate proficiency in the operations of the UAS to their Chief Remote Pilot or UAS Program Manager.

4. The UAS Program Manager will review and determine approval of all training curriculum.

B. Recurrent training may be accomplished through training dates, classroom instruction, proficiency practice flights, seminars, and conferences.

1. Bi-annually, all IDOT UAS Pilots will demonstrate proficiency in UAS operation to the area UAS Chief Remote Pilot. IDOT Pilots will demonstrate proficiency in preflight procedures, taking off, landing, and at least one of the approved training scenarios as outlined in the checklist.

2. All UAS Pilots shall review and be familiar with *CFR Part 107*, applicable federal and state rules and regulations, departmental guidance, and maintain proficiency in their Operator/Visual Observer skills.

3. Recurrent training is not limited to actual Pilot/Visual Observer skills, but includes knowledge of all pertinent UAS and aviation matters.

4. Failure to maintain/prove proficiency can result in suspension and/or removal from UAS operations.

C. Non-recurrent training may be accomplished through planned training in conjunction with other public UAS Programs or third-party contractors, as approved by the UAS Program Manager.

1. Non-recurrent training must meet all FAA regulations set forth in *CFR Part 107*.

4-2 TRAINING RECORDS

The UAS Program Manager will maintain all training records and certificates of IDOT's UAS Pilots on the department servers or within the approved UAS software. The IDOT Pilot(s) will maintain copies of all their own personal records and certificates.

4-3 PILOT CURRENCY REQUIREMENTS

In order to maintain currency, all IDOT UAS Pilots will complete three (3) operational missions or complete one (1) practice mission to include three (3) take-offs and landings every 90 days utilizing a department-owned UAS. Practice missions may occur at sites approved by the UAS Program Manager, or their designee.

SECTION 5. REQUESTING UAS SERVICES

The UAS may be requested for projects meeting the criteria listed in Section 2-1. of this manual. Areas that own their own UAS should start by notifying their Chief Remote Pilot, who will coordinate the mission with UAS Program staff and crew.

Areas without their own UAS may request a mission be conducted for them.

A. All requests for UAS missions should be submitted to DOT.AERO.UAS@illinois.gov and contain the following information:

- Requesting work area/unit and Point of Contact,
- Project Number/Project Name,
- Location of the project, including GPS coordinates if available,
- Nature of the project,
- Type of data requested,
- Any known on-site physical challenges, including known tall structures in or near the area of the project,
- If the request is date-specific or if there is an approximate timeframe/window,
- One-time request or recurring need.

B. The UAS Program Manager will route the request to applicable department personnel to assign an RPIC to the mission request.

C. The assigned RPIC will coordinate with the requestor to clarify and/or refine details as needed.

D. If, for some reason, the request is denied, the RPIC will follow proper procedures to follow up with the requesting party and remediate each issue resulting in the original denial.

E. If an RPIC request for service is denied, the RPIC will document the request denial along with the appropriate reasons for the denial.

SECTION 6. UAS MISSION PROCEDURES

6-1 GENERAL

All department UAS missions will at a minimum include a Remote Pilot-In-Command (RPIC) and a Visual Observer (VO). Multiple VOs or additional UAS Crew Members may be warranted depending on site conditions, workflows, and mission complexity.

An RPIC may operate without a VO in an emergency situation, provided conditions are safe to do so and the RPIC is able to adhere to all other applicable rules and regulations. Operations without a VO are only permissible when critical safety-related information is needed in real-time, and when a lack of access to UAS imagery or data could further compromise the immediate safety or security of workers, the public, or critical infrastructure.

Any operations that do not utilize a VO must be reported to the UAS Program Manager within 48 hours. The RPIC will explain the emergency circumstances, including justification as to why a VO was not used.

Operational variances to guidance contained in this manual may be granted by the UAS Program Manager, or their designee, if the variance can maintain a suitable level of safety. Approved variances of departmental UAS missions should be documented on the applicable AirData flight log.

6-2 PRE-FLIGHT

Before any department UAS mission, the RPIC must take the following actions.

A. Complete the applicable pre-flight checklist within AirData. See Appendix 1 for an example checklist.

   1. The pre-flight checklist can be completed in the field or within the office before arriving to the mission site.

   2. The pre-flight checklist will include a precheck of the airspace and weather conditions to ensure it is safe to conduct a mission (see Section 6-3 and 6-4 below for additional details).

   3. Flight data (metadata about the flight, such as pilot information, flight hours, etc.) is contained within AirData. However, data collected for the mission (including images, videos, and/or point clouds) may have to be manually uploaded to a departmental computer/server for storage and further processing.

B. Set up UAS equipment at the mission location.

   1. Refer to UAS manufacturer specifications, including installation of accessories such as sensors, batteries, etc.

   2. Inspect all UAS equipment for flight-worthiness.

   3. Enable and configure automated safety enhancement features or functions, such as object detection and collision avoidance, return-to-home, low-battery warning, emergency parachute system, etc.

   4. Mark the take-off and landing zones with safety measures (orange cones, targets, etc.) to enhance safety and visibility. The safety measures will be dependent on the type of UAS mission.

5. Identify a second landing area in case of an emergency.

6. Set target control points using GPS, if needed. A survey mission lasting multiple days may need targets staked to the ground, so they do not move during the mission.

C. Conduct a pre-mission safety briefing with the UAS Crew Members, and any other personnel at the flight location. The pre-flight briefing shall include, but not be limited to:

1. Confirmation of mission authority,

2. Review of mission goals and methods to achieve goals,

3. Review of current and forecasted weather conditions and weather limitations on mission (see Section 6-3),

4. Review of airspace, including current NOTAMs and TFRs that have been issued for the proposed flight area,

5. Identification of mission limitations and safety issues, such as battery charge, GPS strength, and potential for radio interference,

6. Review of proposed flight area, including maximum ceiling and floor,

7. Review of communication procedures between Crew Members, including the availability to communicate with air traffic control in the event of a fly-away or other flight emergency,

8. Review the importance for non-interference with any mission personnel,

9. Review of emergency/contingency procedures including aircraft system failure, flight termination, divert, and lost link procedures,

10. Execution of a pre-flight check following the approved checklist within AirData.

D. Once all pre-flight procedures are complete, the RPIC will determine whether the mission will proceed.

6-3 WEATHER

The RPIC is responsible for obtaining current weather reports from an appropriate source as denoted in the FAA's *Aeronautical Information Manual (AIM)*.

A. This process includes obtaining data from the closest airport with Automated Weather Observation Systems (AWOS) or Automated Terminal Information System (ATIS) and/or calling the Flight Service Station (FSS) for a weather report for the area of operations.

B. A standard Meteorological Terminal Aviation Routine (METAR) report and Terminal Aerodrome Forecast (TAF) report shall be reviewed if available.

C. This does not preclude the RPIC from using supplemental weather resources.

D. The UAS can be operated only in accordance with manufacturer's temperature recommendations, unless exigent circumstances exist, or approved by the UAS Program Manager, or their designee.

E. Except in exigent circumstances, the UAS will not initiate a mission (depart) or be utilized if the sustained surface wind velocity is greater than the manufacturer's guidelines. Exigent circumstances may include circumstances such as natural and medical disasters.

F. In the event of exigent circumstances, the UAS may initiate a mission (depart) and be utilized if the sustained surface wind velocity is greater than the manufacturer's guidelines with RPIC approval, and if the RPIC possesses the skill necessary and reasonably believes they can safely operate the UAS.

6-4 ALTITUDE RESTRICTIONS

A. The RPIC will ensure the UAS is operated at a safe altitude and in accordance with any and all applicable FAA regulations and in accordance with the RPIC's training and SOPs for the UAS.

B. When operating under *CFR Part 107*, the altitude of the unmanned aircraft cannot be higher than 400 feet above ground level unless the unmanned aircraft is flown within a 400 foot radius of a structure and does not fly higher than 400 feet above the structure's immediate uppermost limit. All other UAS Operations at altitudes above 400 feet Above Ground Level (AGL) must have FAA approval.

C. Operations within controlled airspace may be subject to additional altitude restrictions unless airspace authorization is granted by the FAA.

6-5 POST-FLIGHT

A. Once the flight is complete, the RPIC will safely land the UAS on the specified landing zone, with the visual assistance of the VO.

B. The RPIC will inspect and secure all UAS equipment for transport.

C. Upon return to the office, the RPIC will take steps necessary to make the UAS ready for the next mission, including charging of batteries, replacing worn propellors or other parts, etc.

D. Data captured during the mission, such as images, videos, and/or point clouds, may have to be manually uploaded to a departmental computer/server for storage and further processing. All utilization of agency IT resources, including equipment, software, and collected data, must comply with *Departmental Order 8-01, Information Technology Guidelines and Security*.

SECTION 7. ACCIDENT AND INCIDENT REPORTING

7-1 ACCIDENTS VS INCIDENTS

A. Accident - An occurrence associated with the operation of any public or civil UAS that takes place between the time that the system is activated with the purpose of flight and the time that the system is deactivated after its mission, in which:

- Any person suffers death, serious injury, or any loss of consciousness; or
- Damage to any property occurs, other than the unmanned aircraft, unless one of the following conditions is satisfied:

i. The cost to repair (including materials and labor) does not exceed $500; or

ii. The fair market value of the property does not exceed $500 in the event of total loss.

B. Incident – An occurrence/mishap, other than an accident, associated with the operation of the aircraft, that affects or could affect the safety of operations. If an incident causes property damage, the cost of repair (including materials and labor) does not exceed $500, or the fair market value of the property does not exceed $500.

7-2 ACCIDENT REPORTING

The UAS Program Manager shall be notified immediately of any accident involving a departmental UAS. The UAS Program Manager is responsible for ensuring proper external coordination and for notifying the department's Office of Chief Counsel, Bureau of Claims.

A. No later than 10 calendar-days after an operation that meets the criteria of either paragraph (1) or (2) of this section and before additional flights, the RPIC of the UAS during the accident, after coordination with the UAS Program Manager, must report to the FAA, in a manner acceptable to the Administrator, any operation of UAS involving:

1. Death of any person(s).
2. Serious injury to any person(s) or any loss of consciousness.
3. Damage to any property, other than the UAS, if the cost is greater than $500 to repair or replace the property.

B. The National Transportation Safety Board (NTSB) shall be notified immediately if an unmanned aircraft accident occurs, and any person suffers death or serious injury. The RPIC will complete any other forms as required by their Office.

C. All accident reports will be forwarded to the UAS Program Manager by the RPIC within 10 calendar-days of the accident.

The FAA Regional Operations Center (ROC) Reports may also be made to the nearest jurisdictional Flight Standards District Office (FSDO) . The report should include the following information:

- RPIC's name and contact information;
- RPIC's FAA airman certification number;
- UAS registration number issued to the aircraft (FAA registration number), if required;
- Location of the accident;
- Date of the accident;
- Time of the accident;
- Person(s) injured and extent of injury, if any or known;
- Property damaged and extent of damage, if any or known; and
- Description of what happened.

UAS accidents are reported to the FAA ROC. However, in some cases, according to *FAA Advisory Circular (AC) 107-2 (4.5.2)*, a UAS accident must be reported to the National Transportation Safety Board (NTSB). The AC directs the RPIC reporting an accident to the FAA to consult the NTSB website (www.ntsb.gov) for more information. It is important to understand the regulations so that proper reports and notifications can be prepared following an accident. Enforcement action can be taken against the operator if notification is not made within the prescribed timeframe.

7-3 INCIDENT REPORTING

The UAS Program Manager shall be notified within 4 hours of any incident that results in injury of any type to the UAS Crew or non-participants, or any incident that results in damage to the UAS equipment or third-party property. Notification of incidents associated with abnormal operating conditions (that did not result in injury or damages) shall be made within 24 hours of the occurrence. The RPIC will document all incidents involving department UAS in the flight log. Depending on the type and severity of the incident, additional documentation may be required by FAA rules and regulations and/or departmental guidance. The UAS Program Manager will be responsible for ensuring proper external coordination and for notifying the Department's Office of Chief Council Bureau of Claims.

Examples of incidents include, but are not limited to:

A. Near miss: The UAS unexpectedly (i.e., unplanned) comes within 20 feet of any person or other vehicle, whether in motion or stationary. "Other" vehicles include, but may not be limited to, other UAS, aircraft, cars or trucks, watercraft, or railroad vehicles of any kind, or the UAS unexpectedly (i.e., unplanned) comes within 10 feet of a fixed object. A fixed object includes buildings, utility poles, utility lines, trees, bridges, dams, or similar fixed structures;

B. Lost link or lost communication;

C. Unexpected shutdown (in-flight or on ground);

D. Major deviation from intended flight profile;

E. Flyaway (of any duration);

F. UAS causes a fire;

G. UAS creates a hazardous condition of any kind;

H. Damage to UAS which renders it inoperable or unsafe to continue the mission.

After an incident occurs, the RPIC shall terminate the mission as soon as practicable. The equipment involved with an incident shall not be used on a mission until the cause of the incident can be determined and the UAS Program Manager, or their designee, determines the equipment safe to return to service.

SECTION 8. SAFETY

8-1 SAFETY

This program manual will help to ensure an accident-free, safe UAS program, founded in comprehensive training and evaluation. Training is sustained by policy, quality equipment, proper maintenance, effective decision making, and positive attitudes.

Safety is IDOT's number one priority. This extends to ALL aspects of a mission: operational safety, worker safety, safety of the motoring public, etc.

- If flights cannot be conducted in accordance with FAA rules/regulations and within an acceptable margin of safety - for participants, non-participants, and property - the mission should be scrubbed.

- UAS can become a distraction for both workers and the motoring public; UAS Flight Crews should plan and conduct their operations to minimize this risk.

A. Operations Over Human Beings:

- Many IDOT-related UAS operations take place in the immediate vicinity of active roadways with moving traffic. *14 CFR 107 Subpart D - Operation over Human Beings*, specifies limitations regarding operations over moving vehicles.

- UAS flight plans should be structured to avoid flight over moving vehicles. If UAS flights require lane closures to meet the operating guidelines contained in *14 CFR 107*, the UAS Flight Crew should work with local IDOT staff (District/Project or Operations/Maintenance yards) to implement an appropriate level of traffic control.

- Flight along-side a roadway, while not directly above non-participants, should be conducted with caution and a heightened level of awareness for obstacles and other hazards which may impact the safety of the operation.

- The UAS Flight Crew should remain mindful that flights adjacent/along-side a roadway may result in a flight track over cross-streets with traffic and/or locations with non-participants. Cross flights, when needed, should be planned to minimize risk.

- Any mission requiring a waiver must be coordinated with the UAS Program Manager. The waiver process should be initiated as soon as practicable, as the FAA waiver process can take a significant amount of time.

B. Visual Line of Sight:

- Many IDOT-related projects span long distances or have potentially obstructed views. *14 CFR 107.31 - Visual Line of Sight Aircraft Operation* includes the requirement to operate within Visual Line of Sight (VLOS), unless a waiver has been granted by the FAA.

- Any mission requiring a waiver must be coordinated with the UAS Program Manager. The waiver process should be initiated as soon as practicable, as the FAA waiver process can take a significant amount of time.

C. Launch / Landing Zones (LZs):

- Many IDOT-related UAS operations have LZs in an active work zone or in the vicinity of moving traffic.
- Depending on the location(s) of the LZs and the UAS Flight Crew, appropriate site-safety precautions should be in place (IDOT-approved high-visibility vests, hard hats, PPE, signage, lights, etc.). The UAS Flight Crew should work with local IDOT personnel to determine if an IDOT escort is needed to assist in roadside safety.
- Identifying exact location(s) of the LZ(s) is not necessary prior to a mission, as real-world factors often drive an in-the-field determination of the most suitable LZ location(s).

8-2 PROGRAM SAFETY REVIEW

A. A UAS Program Safety Review will be conducted annually, or at any time deemed necessary by the UAS Program Manager. During a Program Safety Review, the designated UAS Chief Remote Pilot(s), along with UAS program management staff, will assemble to review all guidance and SOPs of the UAS Program. It will be the responsibility of the Chief Remote Pilot(s) to notify all personnel authorized to participate as a UAS Crew Member of any updates or changes to policy or operational guidance.

B. During the Program Safety Review, changes and updates to departmental guidance, SOPs, training, forms, and any other concerns will be reviewed and considered for implementation.

SECTION 9. EMERGENCY PROCEDURES

11-1 EMERGENCY AIRSPACE AUTHORIZATION (WITHOUT WAIVER)

Operations in Class B, Class C, or Class D airspace, or within the lateral boundaries of the surface area of Class E airspace designated for an airport, are not allowed unless that person has prior authorization from the FAA.

11-2 EMERGENCY PROCEDURES

Below are procedures to follow for several specific emergency conditions.

A. **Lost Link** – loss of the communication link between the UAS and the hand controller:

1. The RPIC will announce the failure to the VO.
2. The UAS should enter a fail-safe mode within a period determined by the manufacturer after the condition is detected. The UAS will be set to return to the point of departure or “home.” After landing, the UAS motors will be powered off.
3. In the event of a Lost Link Fly-Away, the RPIC will immediately notify the nearest air traffic control, if the mission is located within 5 miles of an open-to-the-public airport.

B. **Fatal Condition Response (FCR)** – the failure of a sensor required for safe flight, motor failure, airframe damage, or power failure:

1. The RPIC will announce the FCR to the VO.
2. The UAS Pilot will immediately initiate an emergency landing.
3. The VO(s) will assist the RPIC to avoid persons or property during landing.

C. **Lost Visual Contact** - loss of sight of the UAS by the UAS Pilot and/or Visual Observer:

1. RPIC and/or VO will announce lost sight of the UAS.
2. The RPIC will hover until visual contact is re-established.
3. If contact is still lost, the RPIC will ascend to re-establish visual contact.
4. If unable to re-establish contact, the RPIC will return the UAS to home above the Minimum Safe Height (MSH) and land. If sight is re-established by the UAS Pilot or Visual Observer, the mission may resume if the RPIC determines operations can continue safely.

SECTION 10. UAS MAINTENANCE

A. Properly maintained UASs are essential to safe operations. Compliance with manufacturer's scheduled maintenance, pre-flight inspections, and the immediate repair of mechanical problems ensure the availability and safety of the department's UASs.

1. Each RPIC is responsible for verifying the proper maintenance of the UAS they intend to utilize on a mission.

2. The RPIC will coordinate with the Compliance, Training, and Innovation Section of the UAS Program to schedule maintenance for the UAS. UAS maintenance will be coordinated to ensure the least amount of disruption possible to continued UAS operations.

3. The UAS Program Manager or their designee will maintain all maintenance records in department approved software.

B. Prior to a UAS being returned to service after scheduled maintenance, the UAS will be inspected by the RPIC and shall be test flown.

1. Test flight must occur at a location consistent with the type of locations suitable for training.

2. A test flight is not considered recurrent or non-recurrent training.

3. A test flight will occur after any upgrade to the UAS system or anytime maintenance is performed on the UAS system.

4. The test flight along with the purpose of the maintenance will be recorded in the UAS maintenance record.

C. Upon completion, any repairs performed will be entered in the UAS maintenance logbook. The Program Chief Pilot is responsible for coordinating all UAS maintenance and will notify the Bureau/District Chief Pilot or designee of any maintenance required or completed, or to any upgrades to the UAS.

SECTION 11. EXTERNAL CONSULTANTS OR CONTRACTORS

11-1 GENERAL REQUIREMENTS

Per *Departmental Order 11-05: Order on Unmanned Aircraft Systems*, external consultants or contractors utilizing their UAS equipment and/or staff in support of a departmental project are required to provide IDOT with confirmation in writing that they are complying with FAA Regulations and have safety protocols in place while operating their UAS. The consultant or contractor is to fill out a coordination checklist to self-verify prior to commencing flight(s). This confirmation will be submitted to the UAS Program Manager and the primary IDOT point of contact for the project. A copy of this checklist is included for reference in Appendix 2. External consultants or contractors working with the department should be familiar with Departmental Order 11-05 and contact DOT.AERO.UAS@illinois.gov prior to flying, or if they have any general questions.

11-2 BUSINESS AREA COORDINATION

Consultant/Contractor use of UAS will typically be performed to collect data in support of a project or initiative within a specific business area of the department (i.e., District Survey, Construction; Bridges & Structures; Surveys, Mapping & Modeling; Land Acquisition, etc.). While Aeronautics coordination focuses broadly on aviation safety and regulatory compliance, different use cases of this technology will drive mission-specific needs and considerations. The business area seeking UAS-derived data from a Consultant/Contractor is responsible for ultimately determining whether UAS are appropriate to use in support of an IDOT Project, and for determining items including scope/cost, data delivery format, data accuracy standards, expectations for mission coordination, site access, on-site safety considerations, etc.

It is the responsibility of external consultants and contractors to coordinate with the appropriate business area before utilization of the UAS.

Utilization of UAS in specific business areas within the agency may have requirements in addition to those found in this manual.

APPENDIX 1 – SAMPLE UAS PREFLIGHT CHECKLIST

Checklist: Pre-flight checklist

- [ ] Confirm flight area is in Class G airspace *
- [ ] Permission from ATC for operations in Class B, C or D (wavier has contact info) *

Airspace and Flight Restrictions *

- [ ] Local NOTAMs Checked *
- [ ] Determine local air traffic routes for collision avoidance *

Weather Conditions *

- [ ] Current and forecast weather conditions obtained *
- [ ] Visibility is greater than 3 statute miles *
- [ ] Cloud ceiling is higher than 500 feet *
- [ ] Wind speed is below maximum limit for UAS *

People and Property *

- [ ] Participating personnel ONLY allowed under UAS flight path *
- [ ] Non-Participating personnel must be under protective covering *
- [ ] Safety briefing for all participating personnel *
- [ ] Risks to all personnel and property determined

Ground Hazards and Operating Area *

- [ ] Location of ground hazards determined *
- [ ] Level of risk assessed
- [ ] Boundaries of flight operation area defined
- [ ] Primary launch and landing zone identified *
- [ ] Alternate landing zone Identified *

Flight Operation *

- [ ] Battery charge sufficient for planned flight time *
- [ ] Preflight inspection complete *
- [ ] Control system functions checked *
- [ ] UAS in a safe condition for flight *
- [ ] Flight will be during daylight or civil twilight if equipped with lights *

Notes

APPENDIX 2 – SAMPLE THIRD PARTY COORDINATION CHECKLIST

Illinois Department of Transportation
Division of Aeronautics
1 Langhorne Bond Drive / Capital Airport
Springfield, Illinois 62707-8415

Unmanned Aircraft Systems (UAS) Third-Party Acknowledgement Checklist

The third-party entity identified below intends to operate UAS in support of the referenced IDOT Project. By submitting this checklist, the entity agrees to the included conditions, and is self-verifying UAS operations will be conducted in accordance with applicable Federal Aviation Administration (FAA) rules and regulations.

Third-Party (Contractor/Consultant) Information

Company:	
Primary Contact:	E-Mail:

Remote Pilot-In-Command (RPIC) Information

Name:	FAA Remote Pilot Cert #:
E-Mail:	On-Site Cell Phone:

Attach a copy/scan of Remote Pilot Certificate to submittal.
If multiple RPICs will be use on this project, please list in "Additional Information" area below.

IDOT Contact Information

Project # / Description:	
IDOT Office / District:	
Primary IDOT Contact:	E-Mail:

Yes	No	I Confirm and/or Understand:
☐	☐	The Federal Aviation Administration (FAA) is the sole regulatory authority over the operation of Unmanned Aircraft Systems (UAS), commonly referred to as "drones," in the national airspace, as stated in 49 U.S. Code § 40103 – Sovereignty and Use of Airspace.
☐	☐	Operation of UAS in support of the IDOT project listed above will be in accordance with all applicable FAA rules and regulations, including 14 CFR Part 107.
☐	☐	Remote Pilot in Command (RPIC) holds a valid and current FAA-issued Remote Pilot Certificate.
☐	☐	RPIC shall be the sole manipulator of the controls, except during emergency circumstances.
☐	☐	At least one dedicated Visual Observer (VO) will be present during all flights. VO shall be familiar with the operating guidance and limitations contained within FAA Part 107, including the VO requirements outlined in §107.33. *(Remote Pilot Certificate recommended, not required, for VO.)*
☐	☐	UAS are registered, marked, and Remote ID compliant in accordance with FAA rules and regulations.
☐	☐	RPIC is responsible for securing airspace authorizations via LAANC or the FAA DroneZone, if needed.
☐	☐	The proposed operations do NOT require an FAA waiver.*
☐	☐	RPIC has final authority and responsibility for the safety of the flight, and assumes all risks associated with the operation of a UAS.
☐	☐	IDOT personnel are not expected to have working knowledge of specific FAA flight requirements and are not responsible for the safety of the flight.
☐	☐	IDOT personnel will not provide 'approval' or 'authorization' for specific flights or flight profiles, but may direct the RPIC to terminate the flight if they believe unsafe conditions may exist.
☐	☐	IDOT is the sole owner of all data, including images and videos, obtained or generated through use of a UAS on an IDOT project. Data may not be reproduced or used for other purposes without approval from IDOT.

**** Operations conducted under an FAA-issued waiver require additional coordination with IDOT–Aeronautics.***

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Additional Considerations

The UAS Crew is advised of the following:

Safety is IDOT's number one priority:
This extends to ALL aspects of a mission: operational safety, worker safety, safety of the motoring public, etc.

- If flights cannot be conducted in accordance with FAA rules/regulations and within an acceptable margin of safety - for participants, non-participants, and property - the mission should be scrubbed. No data is worth operating illegally, recklessly, or negligently.
- UAS can become a distraction for both workers and the motoring public; UAS Crews should plan and conduct their operations accordingly.

Operations Over Human Beings:
Many IDOT-related UAS operations take place in the immediate vicinity of active roadways with moving traffic. The FAA has indicated their interpretation of the operating limitation specified in 14 CFR 107 Subpart D - Operation over Human Beings, includes moving vehicles.

- If UAS flights require lane closures, the UAS Crew should work with local IDOT staff (District/Project or Operations/Maintenance yards) to implement an appropriate level of traffic control.
- Flight along-side a roadway, while not directly above non-participants, should be conducted with caution and a heightened level of awareness for obstacles and other hazards which may impact the safety of the operation.
- The UAS Crew should remain mindful that flights adjacent/along-side a roadway may result in a flight track over cross-streets with traffic and/or locations with non-participants.
- The RPIC is responsible for securing any and all waivers from the FAA required to conduct flights safely and in compliance with FAA rules and regulations.

Visual Line of Sight:
Many IDOT-related projects span long distances or have potentially obstructed views. 14 CFR 107.31 - Visual Line of Sight Aircraft Operation includes the requirement to operate within Visual Line of Sight (VLOS), unless a waiver has been granted by the FAA.

- The RPIC is responsible for securing any and all waivers from the FAA required to conduct flights safely and in compliance with FAA rules and regulations.

Launch / Landing Zones (LZs):
Many IDOT-related UAS operations have LZs in an active work zone or in the vicinity of moving traffic.

- Depending on the location(s) of the LZs and the UAS Crew, appropriate site-safety precautions should be in place (IDOT-approved high-visibility vests, hard hats, PPE, signage, lights, etc.). The UAS Crew should work with local IDOT personnel to determine if the UAS Crew should have an IDOT escort to assist in roadside safety.
- Identifying exact location(s) of the LZ(s) is not necessary prior to a mission, as real-world factors often drive an in-the-field determination of the most suitable LZ location(s).

Additional Information:

Must check All "Yes" to submit directly to Primary IDOT Contact.
"No" entries require additional coordination with IDOT-Aeronautics prior to flight.

Send completed checklist to Primary IDOT Contact, with a copy to DOT.AERO.UAS@illinois.gov.
Submittal satisfies requirement for coordination with IDOT-Aeronautics.

Submitted By: _____ _____
Signature (electronic signature acceptable) Date

IDOT USE ONLY
(PRIMARY CONTACT)
Receipt/Acceptance is NOT considered "approval" of any specific flight.
Keep Original with Project Documentation.
E-mail initialed copy to DOT.AERO.UAS@illinois.gov

Received By: _____ _____
Initials Date

Questions? Contact IDOT-Division of Aeronautics UAS Program Manager at DOT.AERO.UAS@illinois.gov / 217-785-8500

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