* Definitions

UAS – Unmanned Aircraft System (drone)

FAA – Federal Aviation Administration

* Security - UAS, controls and associated hardware should be secured against theft and unauthorized use. Whenever possible, hardware, software and controls should be password protected to further prevent unauthorized use.
* Privacy – Privacy concerns should be considered before each flight. Permission should be obtained before flying over land owned by other parties or capturing images of people. Images should be screened for personnel who were photographed without consent. Such images should be destroyed.
* Aircraft registration – All UAS used for business purposes that weigh more than .55 lbs., must be registered with the FAA. Register UASs at:
	+ <https://registermyuas.faa.gov/>
* Licensed pilots
	+ All pilots must have a Remote Pilot Airman Certificate
		- Remote Pilot Airman Certificates must be renewed every two years
	+ Must pass TSA vetting
* Restrictions – UASs cannot be operated over or around the following:
	+ Within 5 miles of an airport
	+ Over personnel
	+ Over buildings
	+ Over or around wildfires
	+ In or around stadiums and sporting events
	+ Check <https://uas-faa.opendata.arcgis.com/> for other restricted areas.
	+ Other restrictions:
		- UAS's must be less than 55 pounds.
		- Only flown during daylight hours.
		- Keep the UAS less than 400 feet.
		- Fly at less than 100 MPH.
		- Do not fly from a moving vehicle.
		- Always yield right-of-way to manned aircraft.
* Pre-flight – Pilots must conduct a pre-flight check to check that the UAS is in condition for a safe flight. The checklist must be completed just prior to the flight at the launch site.
* Weather – The weather must be checked for current conditions as well as the forecast for the duration of the flight, plus two hours, to account for any unexpected delays. Planned UAS flights will be cancelled for the following conditions:
	+ Precipitation
	+ Lightning – observed lightning, stop immediately. Wait until 30 minutes has passed without observable lightning.
	+ Cloud ceilings less than 500 ft.
	+ Wind speed – Wind speed must be below 30 MPH. At wind speeds above 25 MPH an evaluation should be made about the necessity of the flight. Wind speed will be measured at the launch site with an anemometer and documented on the pre-flight check sheet, just prior to the flight.
	+ Check weather forecast within 3 hours of the planned launch time.
* Launch/Landing – Selection of the launch/landing site is critical to flight success and safety. Check owner’s manual for guidance on each specific UAS. General guidance for site selection is below:
	+ Launch/Landing zone should be:
		- Flat, level surface
		- Away from structures and other equipment
		- Coned off
		- Free of obstacles
* Maintenance – All maintenance, weather conducted by mine personnel or the manufacturer will be documented on the Maintenance Log. Minor maintenance allowed by the manufacturer (See Manufacturer recommendations) can be conducted by mine personnel. All other maintenance should be conducted by the manufacturer.
* PPE – Personal protective equipment requirements during launch/landing procedures are listed below:
	+ Hardhat
	+ Steel toed boots
	+ Safety glasses
	+ Gloves
	+ Be aware of loose fitting clothes (hoodie strings)
* Maximum flight time – Maximum allowable flight time will be dependent upon the manufacture’s recommendation or the amount of fuel or battery life. Flights should not exceed 80% of the recommended maximum flight time.
* Incidents
	+ Lost link – All UASs should be set to “hover mode” or “return mode” when a lost link situation is encountered.
	+ Fly away – A fly away should be considered an emergency. Note:
		- Last known location
		- Last known heading
		- Fly aways in the vicinity of airports are reportable to ATC.
	+ Accident reporting
		- The FAA requires notification within 10 days of an accident if the below criteria are met:
			* Serious injury to any person or any loss of consciousness; or
			* Damage to any property, other than the small unmanned aircraft, unless one of the following conditions is satisfied:
				+ The cost of repair (including materials and labor does not exceed $500.00;or
				+ The fair market value of the property does not exceed $500.00 in the event of total loss
		- Report accidents at:
			* <https://www.faa.gov/uas/report_accident/>

**Maintenance Log**

Aircraft:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Serial #:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Flight log**

Aircraft:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Serial #:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| Date | Start time | End time | Duration | Pilot | Reason for flight |
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**Preflight checklist**

Aircraft:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Serial #:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- |
| **Item** | **Go** | **No Go** | **Description** |
| **Battery** |  |  |  |
|  Fully charged |  |  |  |
|  Battery condition |  |  |  |
| **UAS condition** |  |  |  |
|  Airframe structure |  |  |  |
|  Propeller |  |  |  |
|  Motor |  |  |  |
|  Wings |  |  |  |
|  Flight controls |  |  |  |
|  Servo motors |  |  |  |
|  Markings  |  |  |  |
| **Launch/landing site** |  |  |  |
|  Flat level surface |  |  |  |
|  Away from buildings |  |  |  |
|  Away from equipment |  |  |  |
|  Free of obstacles |  |  |  |
|  Coned off |  |  |  |
| **Weather** |  |  |  |
|  Wind Speed \_\_\_\_\_ MPH |  |  |  |
|  Precipitation |  |  |  |
|  Lightning |  |  |  |
|  Cloud ceiling |  |  |  |
|  Weather forecast |  |  |  |
| PPE |  |  |  |
|  Safety glasses |  |  |  |
|  Steel toed boots |  |  |  |
|  Hard hat |  |  |  |
|  No loose fitting clothes |  |  |  |
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Pilot:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Signature:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_