

## 1. LOST LINK/LOST COMMUNICATION/MISSION ABORT.

- (A) In the event of a loss of link (LOL), the aircraft shall proceed in accordance with the following programming:
- (1) Before the mission begins, the LOL action is preset to proceed to a given Rally waypoint ("Launch/Recovery" site) and then to "Autoland". The LOL is automatically engaged after 3 continuous seconds of LOL after which the aircraft will return to the preset Rally waypoint. Once the aircraft reaches the rally point, the aircraft will "Autoland".
  - (2) If link is reacquired at any time prior to "Autoland", the operator may return the UAV to its original course.
  - (3) If the UAV becomes "dumb" (loses GPS link) and becomes "lost" for thirty seconds, default system program will initiate the "Autoland" function and immediately land the aircraft.
  - (4) The UAV is fitted with a tracking beacon, "Falcon Tracker," to guide the UAV Team to the recovery site, in the event the UAV lands out of visual observation of the operator.
  - (5) In the event of loss of communications with CRJMTC Range Control, the UAS team will cease operations and contact Range Control to reestablish two-way communication.
    - a. via CH 1 Range Control (Motorola).
    - b. via cell phone to (614) 336-6041 or (614) 202-5783 (Range Control cell).
    - c. if unable to reach Range Control, call **East Gate Guard Shack** via cell phone (614) 336-6399.

## 2. EMERGENCY PROCEDURES. Preventing a mishap or SUAS loss or damage depends on early recognition of dangerous flight conditions or malfunctions followed by appropriate corrective action.

- (A) UAS operators shall keep Range Control apprised of any potential or actual emergencies. Manned aircraft emergencies will take priority over unmanned aircraft emergencies.
- (B) Both the VO and MO will memorize the immediate action items of each emergency procedure outlined in the Operator's Manual.
- (C) Mission planning must include alternative courses of action available for each phase of the proposed flight. To the extent possible, planned courses of actions for emergencies should be made before the flight begins to include ensuring the Rally waypoint (in the event of loss-of-link) and waypoint "E" (for routine landings) are within the designated COA airspace.
- (D) During flight, both operators must maintain situational awareness and VO should always know which direction to fly to escape hazard. MO: Should always know UA position relative to hazards and be ready to give VO headings and altitudes to fly to safety.
- (E) Those steps that must be performed immediately in an emergency are underlined and in bold print in the Operator's Manual. The operators must be able to perform these steps without referencing the checklist or manual. Non-underlined steps can be accomplished with use of the checklist.
- (F) During an emergency, the PIC will complete, at a minimum, the following:
- (1) Follow procedures outlined in Operator's Manual.
  - (2) Immediately notify CRJMTC Range Control and advise them of the nature of the emergency situation and/or any other pertinent information.

(G) Inadvertent Instrument Meteorological Conditions (IIMC) procedures are encountered:

- (1) The SUAS operator will immediately notify both Range Control and the flight following agency that they are IIMC.
- (2) Any SUAS entering IIMC will immediately return to the center of mass of the Slagle Drop Zone Area and land.
- (3) Route of flight will be from present position direct to center mass of the Slagle Drop Zone. The SUAS will remain below 1000' AGL during the recovery.

(H) "Fly-Away Aircraft" Loss of Control emergency.

- (1) SUAS team will immediately Contact CRJMTC Range Control and advise them of the following information:
  - a. Last known position of UAS.
  - b. Direction of flight.
  - c. Estimated flight time remaining (based on remaining battery life or fuel load)
  - d. Last known altitude.
- (2) CRJMTC Range Control will immediately notify Cleveland ARTCC and appropriate TRACON as required based upon known route of flight:

<u>ID</u>	<u>Name</u>	<u>Phone Number</u>
ZOB	FAA Cleveland ARTCC	440-774-0320
KCAK	FAA Canton-Akron ATCT/TRACON	330-492-3801
KCLE	FAA Cleveland ATCT/TRACON	216-898-2020
KYNG	FAA Youngstown ATCT/TRACON	330-856-4806

- (3) CRJMTC Range Control will immediately notify the following airports as required based upon the known route of flight:

<u>ID</u>	<u>Name</u>	<u>Heading</u>	<u>Distance</u>	<u>Phone Number</u>
 1G3	<a href="#">Kent State Univ Airport</a>	252°	8.2	330-672-1940
 KAKR	<a href="#">Akron Fulton International Airport</a>	231°	14.2	330-733-3950
 4G3	<a href="#">Miller Airport</a>	153°	16.7	270-863-1799
 7G8	<a href="#">Geauga County Airport</a>	038°	16.7	440-632-1884
 KCAK	<a href="#">Akron-Canton Regional Airport</a>	214°	19.7	330-499-4059
 3G6	<a href="#">Tri-City Airport</a>	155°	21.5	330-938-1216
 38D	<a href="#">Salem Airpark Inc Airport</a>	139°	23.7	330-332-4400
 1G5	<a href="#">Medina Municipal Airport</a>	266°	23.7	330-239-1606
 KCGF	<a href="#">Cuyahoga County Airport</a>	341°	23.8	216-289-4111
 3G3	<a href="#">Wadsworth Municipal Airport</a>	249°	26.0	330-334-9861
 KYNG	<a href="#">Youngstown-Warren Regional Airport</a>	091°	26.1	330-856-1537
 KBKL	<a href="#">Burke Lakefront Airport</a>	321°	26.8	216-781-6411

- (I) Incident / Accident Reporting: The following information is required to document unusual occurrences associated with UAS activities in the National Air Space System.

- (1) The Ohio Army National Guard and/or its representatives are responsible at all times for collision avoidance with non-participating aircraft and the safety of persons or property on the surface with respect to the UAS.
- (2) Units and CRJMTC Range Control shall provide the following information to State Aviation Office on a monthly/annual basis (Note: reporting is not required until the first flight occurs. Then reporting must continue on a monthly/annual basis even when no flights are executed):
  - a. Number of flights conducted under this COA.
  - b. Pilot duty time per flight.
  - c. Unusual equipment malfunctions (hardware/software).
  - d. Deviations from ATC instructions.
  - e. Operational/coordination issues.
  - f. All periods of Loss of Communications.
  - g. All spill outs from COA airspace.
- (3) The following shall be submitted to State Army Aviation Office within 24 hours:
  - a. Deviations from the "Special Provisions" contained in the COA.
  - b. All periods of Loss Link, including duration.
  - c. All incidents involving the UAS as defined in 49 CFR 830.
  - d. All accidents involving the UAS as defined in 49 CFR 830.