Application for Special Flight Operations Certificate

File # ABC123

Company Name

Address

Phone

Email

NOTE: This sample is provided as is by flitelab.com
It is meant for reference only. It should only be used as a guide for developing your own specific SFOC application.

Date: *Nov 12 2014*
Prepared By: *XXX*

Contents

Contact Information

Applicant

Name and contact information of the operator.
Company Name
Address
Phone
Email

The following people have read and agreed to this application and have the necessary signing authority to legally bind *Company Name*

Signature of Company Rep

_____

Company Rep Name, Title

Operations Manager

Name and contact info of the operations manager.
Operations Manager Name
Address
Phone
Email

Operations Manager Name will be on duty during the operation. During operation they can be reached at the numbers listed above.

Operation

Purpose of Operation

State the purpose and general summary overview of the operation. The following is provided as an example.

The purpose of the UAV flight operations is to gather video and still photography of ski hill for provincial tourism purposes. Flights will be made at multiple locations throughout the property to collect imagery from various skill runs and trails. The aerial operation will be part of a bigger ground based production with a larger crew. The operation will be carried out using a single multirotor aircraft with an attached camera and gimbal.

The operation will be carried out via LOS (line of sight) between the pilot and UAV.

Expected duration of the operation to be approximately 8 hours in total, which will be made up of multiple 5-10 minute flights over a span of 2 days.

During normal operations the following personnel will be present and in constant communication using FRS radios:

- 1 Operations Manager
- 1 Pilot

Anyone else who is present will be considered a spectator.

Permission to access the property has been granted to the client.

Dates of Operation

State the dates and alternate dates and hours of the operation. The following is provided as an example.

The operation is planned for the period of March 5th – 6th 2014. Flights will be performed between the hours of 7:00AM and 5:00PM AST under VFR conditions flown LOS.

Operations will be managed to ensure public are outside of the designated areas during the times of the flights and access to the shoot locations will be managed by the production crew, with sections being closed as required during each specific shoot and flight.

Flights may occur if the following criteria are met:

- Visibility of greater than 1 mile
- Winds below 15 knots
- Cloud ceiling greater than 500 feet AGL
- Light precipitation

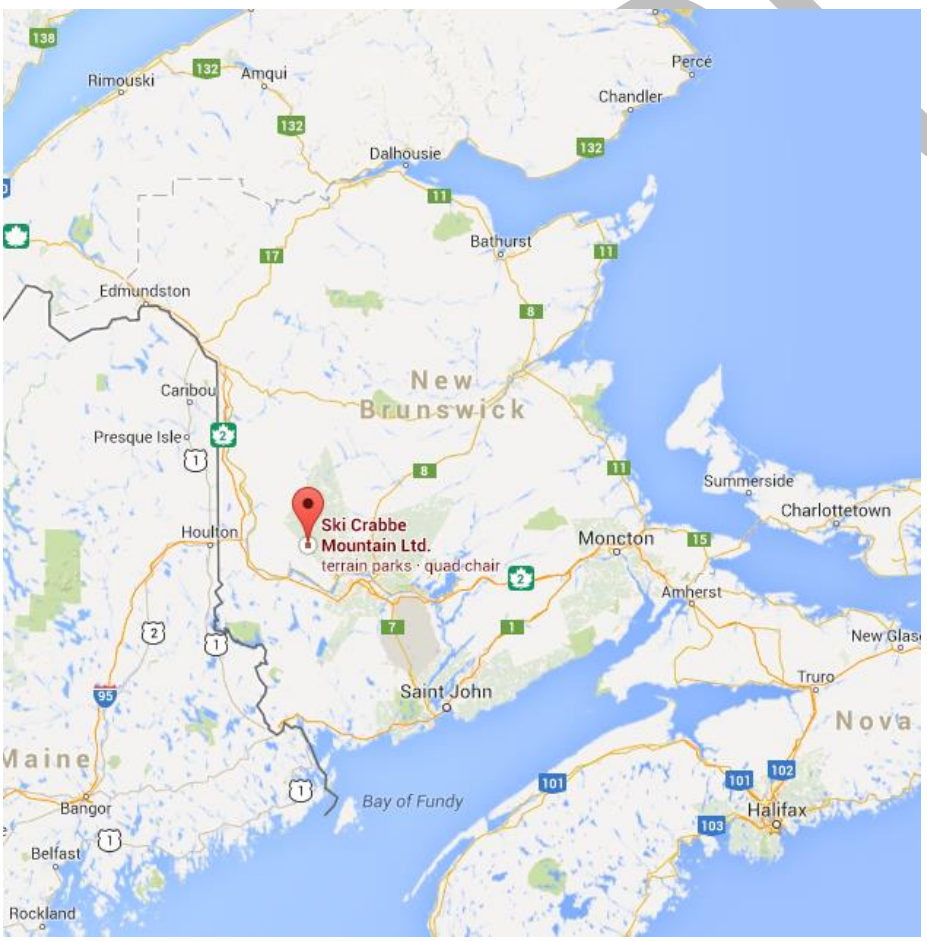
Local weather forecasts and a handheld anemometer will be used to verify conditions for the proposed period and immediately prior to actual mission flights.

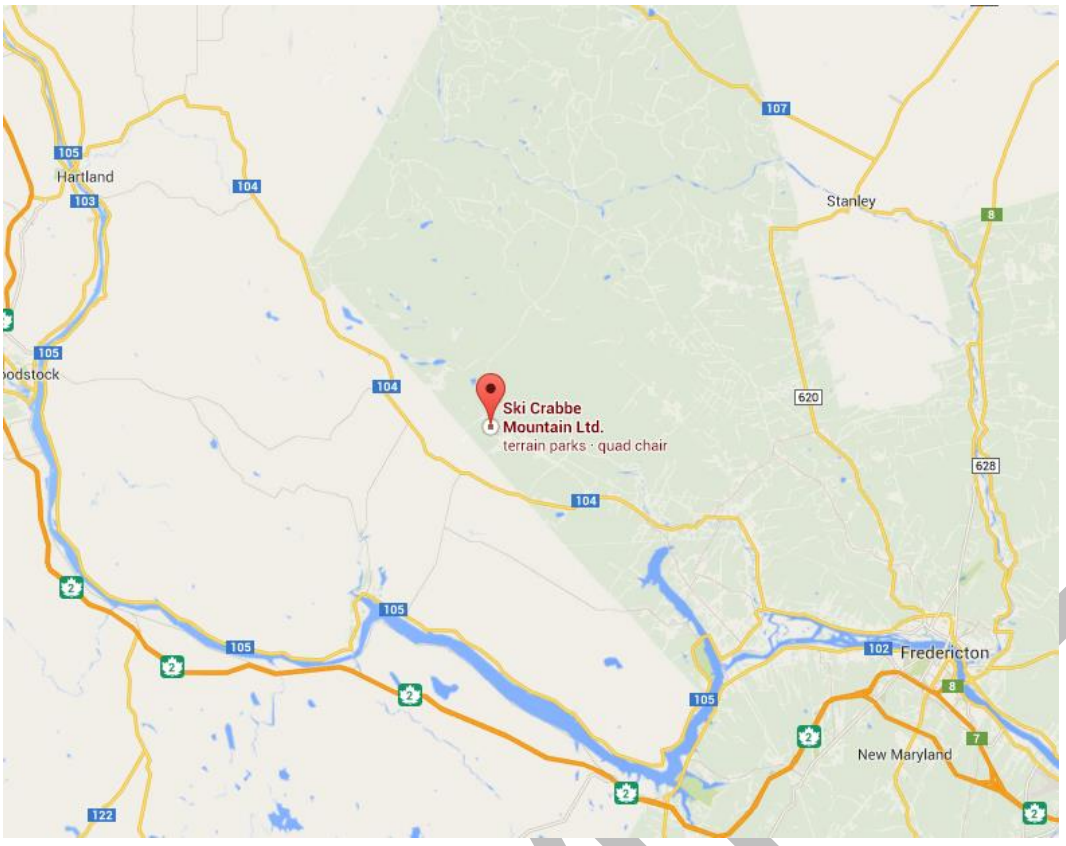
Operation Location

State the details on the location of the operation. Include the max altitude and radius. Include street address and lat/long coordinates. Map imagery outlining the operation location can also be helpful. Indicate the boundary of the operation zone and takeoff/landing areas. The following is provided as an example.

Operation will be performed at the following address:
Crabbe Mountain
50 Crabbe Mountain Road
Central Hainesville, N.B.
E6E 1E3
Phone: 506-463-8311

Lat/Long: 46° 07' 09" North / 67° 06' 04" West




Hartland
Stanley
Ski Crabbe
Mountain Ltd.
terrain parks · quad chair
Fredericton
New Maryland
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Aircraft & Equipment

A *DJI Phantom, aircraft 2, aircraft 3,…* be used for performing the operations.
List any aircraft that will be part of the operation. For each aircraft provide the specifics similar to the DJI Phantom as provided below.

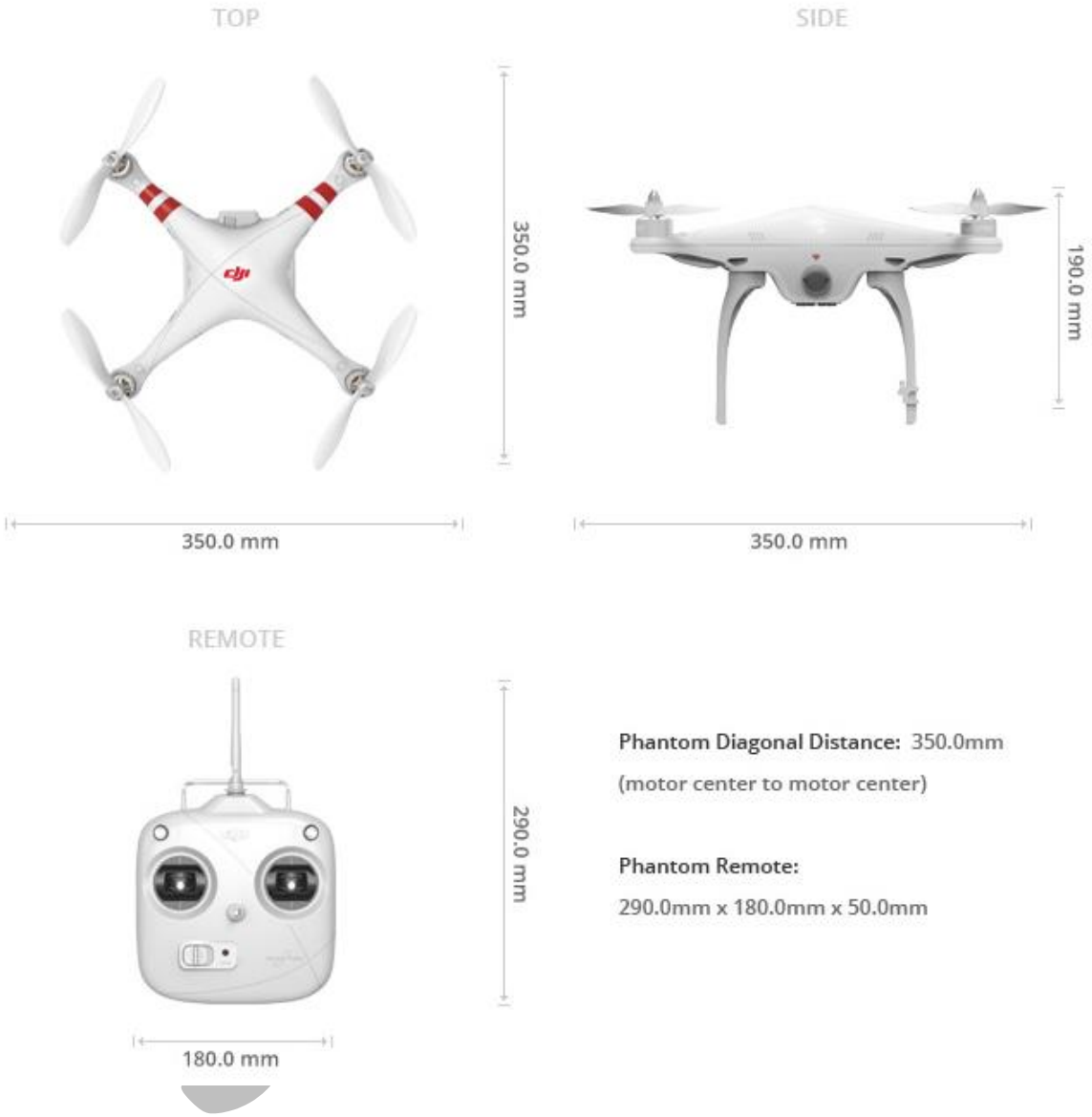
The aircraft will be controlled by a human pilot using standard RC equipment and all flights performed LOS (line of sight).

Only one aircraft will be in use at a time based on the needs of the operation.

DJI Phantom

The following is an example description of an aircraft.

A DJI Phantom multirotor "quadcopter" may be used in the operations. This is a small commercial ready to fly aircraft meant for small payloads and limited flight range usage.



The Phantom uses the DJI NAZA-M flight control system, which provides auto level stability, altitude hold via onboard barometer and position hold via GPS. The GPS also is used in providing failsafe return to home safety feature. The system does NOT provide for waypoint navigation.

Specifications:

- Operating Temperature -10~50C
- Power Consumption 3.12W

- Take-off weight <1000g
- Max Ascent/Descent Speed +-6m/s
- Max Flight Velocity 10m/s
- Max Yaw Angular Velocity 190°/s
- Max Tilt Angle 45°
- Power Source 3S 2200mah Lithium Polymer Battery
- Working Frequency 2.4GHz ISM
- Communication Distance 300m
- Flight Time 7~15 mins dependant on take-off weight and payload

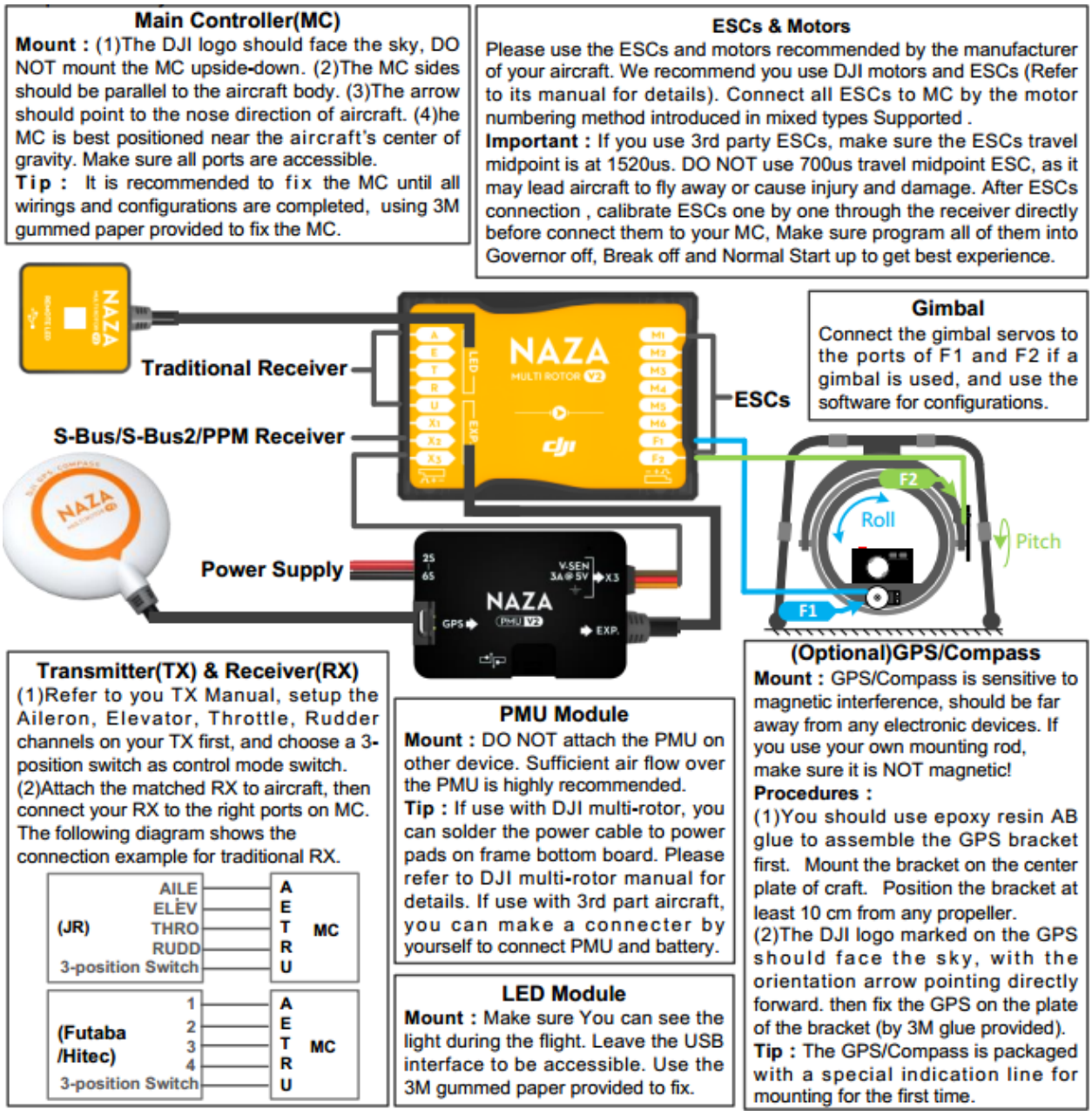
Safety Features:
The Phantom has a failsafe function in the Naza-M autopilot system. This means when the communication between the Main Controller and the transmitter is disconnected, the outputs of all command sticks from controller will go to the center position. If the GPS signal is good enough, the system will automatically trigger Return To Home and will land safely.

The Phantom also has two levels of low voltage protection, a function of the Naza-M autopilot system. It prevents the multi-rotor from crashing or other harmful consequences caused by low battery voltage. In the first level of protection, the LED indicator blinks red to warn you. In the second level protection the system will trigger the Phantom to land automatically.

NAZA-M Flight Control System Installation

The following is an example description for flight control system.

The below figure illustrates the typical RC installation using a NAZA-M flight control system:



Operational & Flight Procedures

The following are examples. They should be modified to match your own procedures.

Pre-Operation Procedures

The following checklist will be reviewed prior to all flight operations.

- Gather operation details from client.
- Perform site survey and review onsite planning with client.
- Finalize proposed operation dates and alternate dates.
- Create and file SFOC.
- Verify SFOC approval and rework as needed.
- Review final operation plans with client.
- Prepare equipment and aircraft for operation – full review and check of all gear and complete aircraft check.
- File NOTAM with local ATC is required.
- Check weather leading up to and day of operation.
- Check-in with client before travel to site for any last minute changes in operational plans.
- Arrive on site and secure staging and takeoff/landing areas.
- Setup and check field kit and flight gear.
- Perform aircraft inspection and ensure all systems are configured properly and fully operational.

Pre-Flight Procedures

The following checklist will be reviewed prior to all flights within an operation:

- Check that area is secure and free of animals, persons, and vehicles.
- Check weather conditions are within defined safe parameters.
- Notify bystanders and team of flight plan.
- Notify ATC and announce to aircraft flight intentions where required.
- Visually inspect aircraft for any damage or structural issues.
- Verify control transmitter is fully charged and correct aircraft selected and all switches and controls in proper neutral position.
- Place aircraft in clear level safe takeoff defined areas, clear of obstacles and any foreign object debris.
- Verify flight batteries are fully charged and stable.
- Power aircraft and verify flight control connections and battery levels.
- Perform radio control range check.
- Power camera and any payload systems.
- Verify flight controls and failsafes, and GPS lock where equipped.
- Verify takeoff and flight area is clear.
- Announce takeoff to teams and bystanders.
- Arm aircraft and perform takeoff.

In-Flight Procedures

The following checklist will be reviewed during all flights within an operation:

- Monitor battery levels during the duration of flight via telemetry or other visual/audible indicators.
- Monitor flight path for other aircraft, persons, animals, or other obstacles.
- Announce landing procedure is to commence.
- Verify landing area is clear.
- Land aircraft is designated landing area.

Post-Flight Procedures

The following checklist will be reviewed following all flights within an operation:

- Power down aircraft.
- Power down onboard cameras and associated equipment.
- Power down control transmitter.
- Return all equipment to safe staging area.
- Notify team and bystanders that flight is complete.
- Visually inspect aircraft and gear for any damage or wear from flight.

Post-Operation Procedures

The following checklist will be reviewed following an operation:

- Remove any notifications, safety equipment, etc from area.
- Pack and store all aircraft and equipment for departure from site.
- Notify team and bystanders that operation is complete.
- Report any incidents to proper authorities.

System Maintenance

Regular maintenance, review, and repair will be performed as required for each specific aircraft and additional equipment as defined by the manufacturer.

Personnel

Provide an overview bio of the person, their flying experience, certifications, training, etc.,

Mark Langille

The following is provided as an example.

Mr. Langille has been actively involved in recreational RC aircraft builds, maintenance, and flight for the past 5 years. Mr. Langille also operates flitelab.com, and online store and resource center for multicopter aircraft in Canada, and deals on a regular basis with the sourcing and testing of components for both hobby and commercial use, in addition to consulting with customers on related topics and equipment and in custom aircraft builds. Mark was also part of the Transportation Safety Board team for the Swissair 111 accident investigation for 3 years, managing the imagery and document management aspects. Mr. Langille is also a member of MAAC (Model Aeronautics Association of Canada #85370), and holds a Bachelors of Computer Science with option in Industrial Engineering from the Technical University of Nova Scotia.

Personnel YYY

Provide an overview bio of the person, their flying experience, certifications, training, etc.

Personnel ZZZ

Provide an overview bio of the person, their flying experience, certifications, training, etc.

Roles

The following defines the responsibilities of primary roles. Depending on your operation there may be different roles and responsibilities. These should be modified to match your operation and procedures.

Operations Manager

The Operations Manager has full control over the operation and is responsible for supervision of the operation area, and is designated to assume responsibility for the operational control of the UAV flight operation. Their duties and responsibilities will include items such has the following:

- Coordinate initial site review and communication with client as to the specifics of the operation.
- Prepare SFOC application to Transport Canada.
- Establish communications and associated permissions with property/land owners, airports/air traffic control/NAV Canada, and related agencies that may be required for the operation based on the location/air space.
- Ensure all personnel are properly trained and aware of their duties for the operation and that enough personnel are in place to safely manage the operation.
- Make final decision on the cancellation/rescheduling/terminate of the operation where conditions fall outside of those defined in operating procedures or as defined within associated SFOC.

Personnel XXX will be the primary Operations Manager for the defined UAV operations.

Pilot

The Pilot will have full command and control of the UAV during the operation. Their duties and responsibilities will include items such has the following:

- Familiarization with the UAV(s) being used prior to the actual operation and have sufficient flight time on the aircraft.
- Familiarization with the flight location and associated airspace and surrounding obstacles prior to any flight operations.
- Be in good health condition and adequately rested and not have consumed any alcohol or altering substances at least 24 hours prior to an operation.
- Verify weather conditions are within the parameters defined for the operation.
- Ensure the UAV is properly checked and safe for flight prior to each flight operation, including all command and control systems.
- Ensure take off/landing area is clear of obstacles and any foreign object debris.
- Broadcast to aircraft in area the commencement and completion of the flight operations where required and monitor radio traffic during flight.
- Announce commencement of flight before liftoff and completion prior to landing to crew and spectators.
- Ensure the UAV is maintained in visual line of sight at all times during the flight operation and ensure remains within all flight boundaries defined and approved of in the SFOC. These boundaries include ceiling and range.
- Ensure all phases of flight are performed in a safe and responsible manner.
- Communicate with the Ground Supervisor and terminate any flight when they feel safety of the operation is at risk.
- With the assistance of the Ground Supervisor, monitor the airspace of the operation and give way to any aircraft in the area.
- Ensure flight power is disengaged at termination of flight.
- Inspect UAV for any damage or malfunctions that may have occurred inflight.
- Inform Ground Operations manager that flight has been completed and landing area is safe and clear.

The Pilot will be responsible for informing the Operations Manager to any concerns or issues they may have that puts the operation at risk. Final decision for flight will be made by the pilot.

Personnel YYY will be the primary Pilot for the defined UAV operations.

Ground Supervisor

Normally the duties of the ground supervisor will be carried out by the operations manager. However if there are invited guests present to watch the operation, one or more ground supervisors may be assigned to ensure the safety of these guests and will be in constant communication with the operation manager. Their duties will include items such as the following:

- Establish safe takeoff/landing zones for each flight, and cordon off these areas if and where required.
- Ensure field kit is on site, accessible, and fully stocked.
- Ensure spectators remain within the designated spectator area and that their actions do not pose an additional risk to themselves or the operation and maintain general security of the site.
- Ensure safe distances to surround building, vehicles, and spectators are maintained during the flight operations.
- Watch for other aircraft within the operation airspace.
- Communicate with other operation personnel during the operations.
- Coordinate spectators the event of an emergency.

Where additional personnel are deemed required, *Personnel XXX* may act in the Ground Supervisor role in conjunction with the Operations Manager. *Personnel YYY* may act as alternate Ground Supervisor.

System Maintainer

The System Maintainer will be responsible for the proper construction, maintenance, and repair of the UAVs. These duties will be ongoing and not necessarily specific to a given operation, but focused on the aircraft themselves. Their duties and responsibilities will include items such has the following:

- Be familiar with the UAV aircraft and fully versed on their maintenance requirements and general operation via training material from the manufacturer or related sources.
- Ensure that the aircraft are safe for use prior to the start of a given operation.
- Maintain all elements of the flight system including hardware and software systems.
- Keep current with all UAV and related system service bulletins and ensure all systems are in line with recommended updates/fixes.
- Ensure manuals and documentation for UAV and related systems are current and in line with the systems current state.
- Inform Pilot and other personnel of any modifications or changes to systems due to repairs, enhancements, or manufacture bulletins.

The UAV aircraft and related flight systems are maintained primarily by *Personnel ZZZ*.

Security Plan

This is an example security plan; it should be modified to match your specific procedures.

UAV will be operated below 400 feet AGL during normal operations.

Flight will remain within the confines of the defined property boundaries at all times.

Flights will NOT take place over any individuals, only the associated property and structures. Personnel outside the flight crew will be informed to remain indoors or behind the flight line in the defined safe areas.

The property owners have been notified and are aware of the associated risks. A complete safety briefing will be made to all individuals present within the flight operation area.

Emergency Contingency Plan

This is an example emergency plan; it should be modified to match your specific procedures.

If unusual or abnormal aircraft operation are observed by either pilot or observers, and normal control cannot be immediately be restored then the aircraft will be ditched in the nearest safe clear area away from spectators and structures.

In the event of unanticipated changes within the flight zone (severe weather, other aircraft, and unauthorized personnel) the aircraft will be immediately landed in the designated takeoff/landing zone and the operation aborted.

A portable air horn will be sounded at any time where an emergency poses a continued risk to people on the ground.

If an emergency were to develop, the appropriate authorities would be contacted by calling 911, which handles all emergency requests in this area.

A field kit that includes a first aid kit, fire extinguisher, safety flagging tape, air horn is available in the event of an emergency.

VHF Air Band Transceivers is part of the standard field kit and accessible at all times for announcing flight operations and monitoring air traffic within the operations area.

Insurance

State the specific of your insurance coverage including the provider and policy #.

Company Name is insured for $1,000,000 with YYY (Policy # 123456), including public liability which exceeds the minimum requirement specified by the Canadian Aviation Regulations Section 606.02

Certificates/Licenses

If there are any specific training, operators, or related certificates and licenses, a scanned copy and/or reference number should be listed here.