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Our file Notre référence
5812-15-50

RDIMS Number Numéro de SGDI
12307357

September 23, 2016

Mr. Peter Klyne, Operations Manager
Rainy Lake Tribal Resource Management Inc.
Box 522
Fort Frances, Ontario
P9A 3M8

Subject: Special Flight Operations Certificate

Your reference number for this activity is: ATS-16-17-00032709

Dear Sir:

Please find attached the requested Special Flight Operations Certificate in accordance with your Special Flight Operations Certificate application of August 24, 2016.

Nothing in this Special Flight Operations Certificate relieves you, the UAV operator, from complying with the provisions of any other relevant Acts, Regulations or laws or from any level of government.

Should you have any questions or concerns, please do not hesitate to contact Inspector Lois Parsons at 416-952-1277.

Yours truly,

Del Duchin
A/Technical Team Lead – Flight Operations East
Civil Aviation, Ontario Region



SPECIAL FLIGHT OPERATIONS CERTIFICATE

Certificate Number: 5812-15-1-2016-756

File Number: 5812-15-1

Pursuant to section 603.67 of the *Canadian Aviation Regulations*, this constitutes your Special Flight Operations Certificate (SFOC), for the operation of a small unmanned air vehicle (UAV) system operated within visual line-of-sight, issued under the authority of the Minister pursuant to the *Aeronautics Act*.

Approval of this Certificate is based on the information provided in your SFOC application dated August 24, 2016.

Nothing in this Certificate shall be held to relieve the UAV operator from requirements to comply with the provisions of such Canadian Aviation Documents as may have been issued pursuant to the *Aeronautics Act* or the *Canadian Aviation Regulations*.

Pursuant to Section 6.71 of the *Aeronautics Act*, this Certificate may be suspended or cancelled at any time by the Minister for cause, including failure on the part of the UAV operator, its servants or agents to comply with the provisions of the *Aeronautics Act* and the *Canadian Aviation Regulations*. This Certificate is not transferable.

Legal Name and Address of the UAV System Operator

This Certificate is issued to **Peter Klyne, Rainy Lake Tribal Resource Management Inc., Box 522, Fort Frances, Ontario, P9A 3M8**, hereinafter referred to as the UAV operator.

Validity Period of this Certificate

This Certificate is valid from **23 September 2016** until **23 September 2017**, or until it is suspended or cancelled.

Type and Purpose of the Operation Authorized

This Certificate is valid for the operation of the DJI Phantom 3 Advanced and the DJI Inspire 1 (Model T600) UAV systems for aerial photography, videography and surveying at unspecified locations within the Ontario Region, and subject to the conditions of this Certificate:

This Certificate is issued subject to the following conditions:

Specific Conditions

- (1) The UAV shall only be operated within visual line-of-sight.
- (2) The pilot of the UAV shall give way to manned aircraft at all times.
- (3) The pilot shall only operate the UAV in visual meteorological conditions.
- (4) The UAV shall only be operated during the day.
- (5) Operations within Class F Restricted airspace dedicated for UAV testing and development are prohibited under this Certificate.
- (6) Operations in restricted or Class F Restricted airspace are prohibited unless specifically authorized under this certificate.
- (7) Operations within Class A and Class B airspace are prohibited.



- (8) No pilot shall operate the UAV above **400 feet above ground level (AGL)**.
- (9) The UAV operator shall coordinate with the air traffic services unit responsible for supplying air traffic services for the area of operation well in advance of proposed operations. The validity of this Certificate is contingent upon such coordination.
- (10) The UAV operator shall conduct a site survey in accordance with the procedures outlined in the SFOC application prior to commencing operations at each location.
- (11) The UAV shall not be operated in any special aviation event requiring an SFOC under Part VI, Subpart 3, Division 1 of the *Canadian Aviation Regulations*.

General Operating Conditions

- (12) A copy of this Certificate shall be on site any time the UAV is in operation.
- (13) The UAV operator shall notify this office within 10 working days after:
 - (a) changing its legal name, trade name, main base, any contact information; and
 - (b) ceasing to operate models of UAV systems authorized under this Certificate.
- (14) The UAV operator shall not require any pilot to operate the controls of the UAV if either the pilot or the UAV operator has any reason to believe that the pilot is suffering or is likely to suffer from fatigue so that they are unfit to perform their duties.
- (15) No pilot shall operate the UAV system within eight hours after consuming an alcoholic beverage or while under the influence of alcohol or while using any drug that impairs the person's faculties to the extent that the safety of the operation is endangered in any way.
- (16) Every crew member engaged in the operation of the UAV system shall, during flight time, comply with the instructions of the pilot-in-command.
- (17) Only one UAV shall be operated in flight by a single pilot at any one time.
- (18) No pilot shall operate the UAV unless it is operated in accordance with the operating limitations specified in the SFOC application.
- (19) The UAV operator shall not permit the use of a portable electronic device at the control station of a UAV system where the device may impair the functioning of the systems or equipment.
- (20) No pilot shall create a hazard to persons or property on the surface by dropping an object from the UAV in flight.
- (21) The UAV operator shall not operate the UAV system, where visual observers are used as part of the sense and avoid function, unless reliable communication is established and maintained between the visual observer and the pilot and standard operating procedures are followed.
- (22) The UAV operator shall ensure that visual observers perform observation duties for only one UAV.
- (23) The UAV operator shall not permit visual observer functions to be performed from a moving surface vehicle.
- (24) Prior to conducting flight, the pilot shall ensure that the UAV System is in an airworthy condition.
- (25) The UAV operator shall not permit UAV operations to be conducted unless the following operational and emergency equipment is immediately available to the appropriate crew member(s):



- (a) checklists or placards that enable the UAV system to be operated in accordance with the limitations specified in the SFOC application or UAV system flight manual; and
 - (b) a hand-held fire extinguisher of a type suitable for extinguishing fires that may occur, and a first aid kit.
- (26) The UAV shall not be equipped with an ELT.
- (27) No pilot shall conduct a take-off/launch of the UAV unless there is a means of:
 - (a) Controlling the flight of the UAV;
 - (b) Monitoring the UAV system;
 - (c) Navigating;
 - (d) Communication, as required by the Class of airspace or regulation;
 - (e) Detecting hazardous environmental flight conditions;
 - (f) Mitigating the risk of loss of control of the UAV trajectory, where applicable;
 - (g) Sensing and avoiding other aircraft;
 - (h) Avoiding flight into obstacles and terrain;
 - (i) Remaining clear of cloud to the distance required for the airspace and operation.
- (28) The UAV operator shall ensure that the UAV is not flown if it has been subjected to any abnormal occurrence unless it has been inspected for damage.
- (29) The UAV operator shall maintain records of their flight operations to include the following information:
 - (a) Location, date, times, crew, and aircraft type for each flight;
 - (b) Flight hours accumulated per aircraft; and
 - (c) Pilot(s) flight hours per day, month and year.
- (30) The UAV operator shall maintain the records identified in the condition above for a period of time equal to the validity period of this Certificate plus one (1) year beyond the expiry date.
- (31) The UAV operator shall have subscribed for adequate liability insurance covering risks of public liability at the levels described in subsection 606.02(8) of the *Canadian Aviation Regulations*.
- (32) The UAV operator shall adhere to the security plan in accordance with the information provided in the SFOC application.
- (33) The UAV operator shall adhere to the emergency contingency plan in accordance with the information provided in the SFOC application.
- (34) The UAV operator shall maintain an adequate management organization that is capable of exercising supervision and operational control over persons participating in the operation.
- (35) The UAV operator shall maintain UAV systems that are properly equipped for the area of operation and the type of operation.
- (36) The UAV operator shall conduct a safe operation.



(37) The UAV operator shall cease operations if at any time the safety of other airspace users or persons or property on the ground is in jeopardy or if unable to comply with the conditions of this Certificate.

(38) The UAV operator is responsible for obtaining permission from the owner(s) of the property on which the UAV intends to take-off from and/or land on.

(39) A NOTAM shall be filed for operations under this SFOC that is within controlled airspace or within three (3) nautical miles of an uncontrolled aerodrome, unless directed otherwise by the Air Traffic Service Provider or the Flight Information Centre (FIC). For advice or coordination in this regard, contact Mark.Telewiak@navcanada.ca 905-676-4609 (Toronto FIR).

General Flight Conditions

(40) No pilot shall operate the UAV system in such a reckless or negligent manner as to endanger or be likely to endanger the life or property of any person.

(41) The pilot shall follow the normal and emergency procedures in accordance with the information provided in the SFOC application.

(42) The pilot shall follow the lost link procedures in accordance with the information provided in the SFOC application.

(43) No pilot shall conduct a take-off/launch of the UAV unless the risk involved with lost link circumstances has been assessed and a determination has been made as to when auto-recovery manoeuvres or flight termination shall be initiated.

(44) No pilot shall activate a flight termination system, if the UAV is so equipped, in such a manner as to endanger other airspace users or persons or property on the ground.

(45) No pilot shall conduct a take-off/launch of the UAV that has frost, ice or snow adhering to any of its critical surfaces.

(46) No pilot shall conduct a take-off/launch of the UAV if explosive, corrosive or bio-hazard payloads are carried onboard.

(47) The pilot shall confirm that no unacceptable radio frequency interference is present prior to flight, nor is likely to be present during flight.

(48) The pilot-in-command of the UAV shall be familiar with the available information that is appropriate to the intended flight, before commencing a flight.

(49) No pilot shall operate the UAV in known or forecast icing conditions.

(50) The pilot, if being provided Air Traffic Control instructions or clearances, shall comply with section 602.31 of the *Canadian Aviation Regulations*.

(51) No pilot shall enter transponder airspace without the UAV being equipped with a transponder and automatic pressure-altitude reporting equipment, unless authorization has been received from the applicable air traffic control unit.



- (52) The pilot-in-command shall provide the air traffic service unit (s) affected by the flight operation with the same information that would be required if the pilot was filing an ICAO (International Civil Aviation Organization) Flight Plan, before commencing a flight.
- (53) Where the UAV is operated in the vicinity of an aerodrome, the pilot shall ensure that the UAV is flown in a manner so as to remain clear of the take-off, approach and landing routes and the pattern of traffic formed by manned aircraft operating at the aerodrome.
- (54) The pilot shall comply with sections 602.97 through 602.101 of the *Canadian Aviation Regulations* if operating in the vicinity of an uncontrolled aerodrome.
- (55) The pilot shall ensure that the appropriate frequency is continuously monitored throughout the duration of the flight, whenever two-way radio communications is required.
- (56) The pilot shall ensure that the appropriate air traffic service unit(s) is advised immediately anytime the flight of the UAV is no longer under the control of the pilot and inadvertent entry into controlled airspace occurs or is likely to occur.
- (57) No pilot shall operate the UAV at a lateral distance of less than 100 feet from a building, vehicle or vessel unless;
- (a) the building, vehicle or vessel is the subject of the aerial work, and
 - (b) only persons inherent to the operation are present.
- (58) No pilot shall operate the UAV at a lateral distance of less than 100 feet from the general public, spectators, bystanders or any person not associated with the operation.
- (59) No pilot shall operate the UAV over a built-up area or over an open-air assembly of persons.
- (60) The pilot or visual observer(s) must maintain continuous unaided visual contact with the UAV sufficient to be able to maintain operational control of the aircraft, know its location and be able to scan the airspace in which it is operating to decisively see and avoid other air traffic or objects.
- (61) No pilot shall operate the UAV over a forest fire area, or over any area that is located within five nautical miles of a forest fire area.

Personnel Conditions

- (62) The UAV operator shall ensure that all personnel are appropriately trained and qualified for the area of operation and the type of operation.
- (63) The UAV operator shall ensure that all pilots, visual observers, maintainers, payload operators are a minimum of 18 years of age.
- (64) No pilot shall operate the UAV unless they are medically fit to conduct their required duties.
- (65) All persons connected with this operation shall be familiar with the contents of this Certificate.



UAV System Conditions

(66) The UAV operator shall ensure that all maintenance, servicing and disassembly-assembly of the UAV and associated components are performed in accordance with procedures described in the SFOC application.

(67) The UAV operator shall ensure that the requirements of any airworthiness directives, or equivalent, issued by the manufacturer have been completed.

(68) The UAV operator shall ensure that all UAV system equipment required for safe flight operations is serviceable.

Incident/Accident Reporting

(69) The UAV operator shall report to this office, as soon as possible, details of any of the following aviation occurrences during the operation of the UAV:

- a) Injuries to any person requiring medical attention;
- b) Unintended contact between the UAV and persons, livestock, vehicles, vessels or other structures;
- c) Unanticipated damage incurred to the airframe, control station, payload or command and control links that adversely affects the performance or flight characteristics of the UAV;
- d) Anytime the UAV is not kept within the geographic boundaries and/or altitude limits as outlined in this Certificate;
- e) Any collision or risk of collision with another aircraft;
- f) Anytime the UAV becomes uncontrollable, experiences a fly-away or is missing; and
- g) Any other incident that results in a Canadian Aviation Daily Occurrence Report (CADORS).

(70) The UAV operator shall not operate the UAV following any of the aviation occurrences listed in the condition above, until such time as this office approves its further operation. Any such approval for resumption of operations shall be documented.

Yours truly,

Del Duchin
A/Technical Team Lead – Flight Operations East
Civil Aviation, Ontario Region