

1.0 INTRODUCTION

The purpose of this document is to describe the requirements for the use of Remotely Piloted Aircraft Systems (RPAS), also referred to as Drones or Unmanned Aerial Devices (UAVs), at NB Power. This will ensure compliance with the Canadian Aviation Regulations (CARs) (SOR/96-433), as well as Standard 921- Small Remotely Piloted Aircraft in Visual Line-of-Sight and Standard 922 – RPAS Safety Assurance. For the purpose of this document and to align with industry practice, these devices will be referred to as RPAS from this point forward.

Transport Canada is responsible for transportation safety oversight and for issuing transportation operating permits and certifications, including those related to aviation. The Special Flight Operations Certificate, required for flight operations under specific conditions, is issued from Transport Canada's Civil Aviation Regional Office from the region the flight operation originates.

2.0 SCOPE

This standard applies to the use of RPAS for all NB Power facilities and for any work conducted on behalf of NB Power.

3.0 REFERENCES

Canadian Aviation Regulations (SOR/96-433) Aeronautics Act	Part IX — Remotely Piloted Aircraft Systems
Transport Canada Standard 921	Small Remotely Piloted Aircraft System (VLOS) Basic Operations
Transport Canada Standard 922	Remotely Powered Aircraft System RPAS Safety Assurance
Transport Canada TP 15263	Knowledge Requirements for Pilots of Small Remotely Piloted Aircraft Systems
Transport Canada TP 15395	Flight Reviewer's Guide for Pilots of Remotely Piloted Aircraft Systems

4.0 TERMS AND DEFINITIONS

Drone	Unmanned aerial vehicle that is operated from a distance whether for recreational, research or work use. These will be referred to as RPAS.
AAE	Above Aerodrome Elevation
ATC	Air Traffic Control
Command and Control Link	Means the data link between a remotely piloted aircraft and a control station that is used in the management of a flight.
Control Station	Means the facilities or equipment that are remote from a remotely piloted aircraft and from which the aircraft is controlled and monitored.
Control Zone	Controlled airspace of defined dimensions extending upwards from the surface of the earth to 3000' above aerodrome elevation (AAE) rounded to the nearest 100 feet, unless otherwise specified.
Controlled Airspace	Airspace of defined dimensions within which Air Traffic Control service is provided.
Flight Termination System	Means a system that, on activation, terminates the flight of a remotely piloted aircraft.
Fly Away	Means, in respect of a remotely piloted aircraft, an interruption or loss of

	the command and control link such that the pilot is no longer able to control the aircraft and the aircraft no longer follows its preprogrammed procedures or operates in a predictable or planned manner.
FPV	First Person View, using RPAS mounted cameras or onboard sensors in conjunction with goggles or monitors to fly a RPAS without visual line of sight.
Non-Recreational	Flying for any purpose other than the ‘enjoyment of flying’. These include flying for the purpose of photography, videography, preparing for student competition, testing RPAS testing programming or controls, flying for research where RPAS are secondary to the research, flying for research on RPAS, flying for work, inspections or commercial purposes, or in association with academic purpose.
Recreational	This is flying for the ‘enjoyment of flying’.
RPAS	Remotely Piloted Aircraft Systems previously referred to as UAVs or drones.
SFOC	Special Flight Operations Certificate, a document issued by the Civil Aviation Regional Office permitting flights under special conditions as defined in section 903.01 of the Aeronautics Act. The SFOC details the limitations of the flight operations authorized.
UAS	Unmanned Air (Aerial) System – Consists of the RPAS, the ground-based controller, and the system of communications used to command the RPAS.
UAV	Unmanned Air (Aerial) Vehicle that is a power-driven aircraft, other than a model aircraft, that is designed to fly without a human operator on board.
Visual Observer	Means a trained crew member who assists the pilot in ensuring the safe conduct of a flight under visual line-of-sight.
VLOS	Visual Line of Sight, using unaided visual contact with an aircraft to maintain control of the aircraft, know its location, and be able to scan the airspace in which it is operating to sense and avoid other aircraft or objects. There is usually a requirement that the RPAS be operated by visual line of sight rather than through a ‘first person view’ or visual observer relaying information.
NOTAM	Notice to Air Men.

5.0 ROLES AND RESPONSIBILITIES

5.1 Employer

- Ensure the pilot/flight crew is familiar with the Aeronautics Act and other applicable standards.
- Ensure that any person who operates a RPAS has received training on the safe and proper operation of a RPAS, through a recognized training organization, and is in possession of a valid RPAS Pilot Certificate as outlined in the Aeronautics Act and Standard 921. All related training must be recorded in NB Power Training Records. If RPAS is under 250g, pilot must hold Basic Operations License and may be trained by anyone within NB Power with an Advanced Operations License.
- Ensure that all RPAS are marked with their registration number, before permitting the RPAS to be flown.
- Ensure that all RPAS are properly registered with the Minister of Transport.

- Ensure that the registration is immediately cancelled when the RPAS is permanently removed from service or is no longer owned by NB Power.
 - Ensure that the Certificate of Registration is available upon request by NB Power or the Minister of Transport.
 - Ensure that the RPAS pilot maintains a VLOS of the RPAS they are operating unless the operation is conducted in accordance with a “Special Flight Operations Certificate SFOC-RPAS Remotely Piloted Aircraft System”, issued under section 903.03 of the Aeronautics act. The only exception is the operation of a RPAS indoors which does not fall under the Aeronautics Act. All other requirements including training and Licenses apply.
 - Ensure that for operations outside of the rules for Basic or Advanced Operations that a SFOC, issued under section 903.03 of the Aeronautics act, has been obtained before permitting the RPAS to be operated. The only exception is the operation of a RPAS indoors which does not fall under the Aeronautics Act.
 - Ensure that for all personnel who operate a RPAS indoors, every effort shall be made to operate within the rules for Basic Operations. Use of a RPAS outside of the rules for basic operations requires approval from ECC, where applicable, and/or the Controlling Authority. All other requirements for operating a RPAS shall apply including training, licenses, maintenance, flight plans, site survey, logbooks, etc.
 - Ensure that if a RPAS weighing over 25 kg will be operated that a SFOC-RPAS Remotely Piloted Aircraft System, issued under section 903.03 of the Aeronautics act, has been obtained before permitting the drone to be operated. The only exception is the operation of an RPAS indoors which does not fall under the Aeronautics Act. All other requirements including training and licenses apply.
 - Ensure that normal operating procedures and emergency procedures, as defined in section 901.23 (1) of the Aeronautics Act, are established before a RPAS is operated. This may take the form of a documented procedure or a Job Hazard Analysis provided it meets the intent of the Act.
 - Ensure that the operator of a RPAS follows all operating rules and regulations as defined in the Aeronautics Act.
 - Ensure that all RPAS are maintained as per manufacturers’ instructions.
 - Ensure that records are maintained including the names of all pilots and crew members, the time and duration of each flight, maintenance activities and modifications as per section 901.48(1) of the Aeronautics Act.
 - Ensure that the records, which may be in the form of an electronic or physical logbook, are made available upon request by NB Power or the Minister of Transport.
 - Ensure that all RPAS pilots have received radio training to ensure appropriate communication with ECC, plant operations, airports, heliports and aircraft that may need to be notified in the case of a fly away and that the training records are available upon request by NB Power or the Minister of Transport. This training must be recorded in NB Power Training Records.
 - Ensure that all RPAS pilots are provided communication devices that will enable immediate contact with either ECC or the Controlling Authority internal to NB Power and with the local airport or pilots of aircraft that may be at risk due to a fly away. This may include cell phones or radios with the appropriate frequencies.
 - Ensure that all RPAS pilots have obtained insurance specific to the operation of a RPAS.
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- Ensure a pre-flight and post flight inspection of the RPAS is performed and documented on Form #0461
- Ensure a documented Tailboard Conference/Pre-Job Brief is performed prior to operating a RPAS.
- Ensure an incident report is filed for any incident as defined in section 901.49(1) of the Aeronautics Act using the NB Power incident reporting process.

5.2 Employee - Pilot/Flight Crew

- Ensure a valid RPAS Pilot Certificate is immediately available upon request by NB Power or the Minister of Transport.
 - Ensure that all RPAS are operated in accordance with the Aeronautics Act.
 - Ensure a site survey, as per section 901.27 of the Aeronautics Act, is performed before commencing operation of the RPAS.
 - Ensure that for any operation as defined in section 903.01 of the Aeronautics Act that a SFOC has been applied for and obtained. The only exception is the operation of a RPAS indoors which does not fall under the Aeronautics Act.
 - When operating a RPAS indoors, every effort shall be made to operate within the rules for Basic Operations. Operations outside of the rules for Basic Operations requires approval from ECC, where applicable, and/or the Controlling Authority. All other requirements for operating a RPAS shall apply including training, licenses, maintenance, flight plans, site survey, logbooks, etc.
 - Ensure training requirements are met as per section 901.54 of the Aeronautics Act for either Basic or Advanced Operations (depending of operational requirements) and have completed a training program through a recognized training organization. This training must be recorded in NB Power Training Records. If RPAS is under 250g, pilot must hold Basic Operations License and may be trained by anyone within NB Power with an Advanced Operations License.
 - All pilots have received radio training to ensure appropriate communication with ECC, plant operations, airports, heliports and aircraft that may need to be notified in the case of a fly away. This training must be recorded in NB Power Training Records.
 - Ensure that records are maintained including the names of all pilots and crew members, the time and duration of each flight, maintenance activities and modifications as per section 901.48(1) of the Aeronautics Act.
 - Ensure that the records, which may be in the form of an electronic or physical logbook, are made available upon request by NB Power or the Minister of Transport.
 - Ensure that proof of insurance is available upon request by NB Power or the Minister of Transport.
 - Perform a pre-flight and post flight inspection of the RPAS and document findings on Form # 0461.
 - Complete a documented Tailboard Conference/Pre-Job Brief prior to operating a RPAS.
 - Ensure an incident report is filed for any incident as defined in section 901.49(1) of the Aeronautics Act using the NB Power 145 incident report process.
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6.0 STANDARD

6.1 **General requirements for operation of a RPAS at NB Power**

- Fly your RPAS
 - where you can see it at all times
 - below 122 meters (400') in the air
 - away from bystanders, at a minimum horizontal distance of 30 meters for basic operation,
 - away from emergency operations and advertised events, such as forest fires, concerts and parades,
 - away from airports (5.6 km/3 nautical miles),
 - away from heliports (1.9 km/1 nautical mile),
 - outside controlled airspaces (basic operations)
 - far away from other aircraft (airplanes, helicopters and other drones),
 - flying an RPAS for recreational purposes is not permitted on NB Power property. Any member of the public who is found to be operating a RPAS on NB Power property or near NB Power facilities shall be politely asked to cease doing so. Refusal to stop should be reported to the authorities.
- The RPAS Pilot must contact ECC and where applicable, the Controlling Authority, to obtain permission before the RPAS can be operated on NB Power property or on behalf of NB Power.
- Respect the Criminal Code, the provincial Trespass Act, and all municipal, provincial and territorial laws that apply
- Every effort must be made to avoid taking photographs or footage of private facilities or persons. Should inadvertent footage be taken, immediate notification to those impacted must be made.

6.2 **Contractors Operating a RPAS on behalf of NB Power**

- Must provide proof of a valid Pilot Certificate prior to operating a RPAS on behalf of NB Power.
 - Must provide a valid Pilot Certificate immediately upon request by NB Power or the Minister of Transport.
 - Ensure training requirements are met as per the Aeronautics Act and can provide proof of training to NB Power and the Minister of Transport upon request.
 - Can provide proof of training for Radio Operation to ensure appropriate communication with ECC, Plant Operations, Airports, heliports and aircraft that may need to be notified in the case of a fly away.
 - Must report to ECC and the appropriate Controlling Authority, where applicable, prior to operating a RPAS on behalf of NB Power.
 - Ensure that all RPAS are operated in accordance with the Aeronautics Act.
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- Ensure that for any operation as defined in section 903.01 of the Aeronautics Act that a SFOC has been applied for and obtained and can provide proof to NB Power or the Minister of Transport immediately upon request. The only exception is the operation of an RPAS indoors which does not fall under the Aeronautics Act. All other requirements including training and Licenses apply.
- Ensure that normal operating procedures and emergency procedures, as defined in section 901.23 (1) of the Aeronautics Act, are established before a RPAS is operated. This may take the form of a documented procedure or a Job Hazard Analysis, provided it meets the intent of the Act.
- Ensure that proof of insurance is available upon request by NB Power or the Minister of Transport.
- Ensure an incident report is filed for any incident as defined in section 901.49(1) of the Aeronautics Act using the NB Power incident report process.

6.3 Protection of Rights and Privacy

- RPAS pilots will ensure the protection of private individuals' civil rights and reasonable expectations of safety and privacy before deploying a RPAS.
- RPAS pilots shall ensure that operation of a RPAS intrudes to a minimal extent upon private persons and businesses. To accomplish this primary goal, NB Power observes the following:
 - when a RPAS is flown, the onboard cameras are turned away from occupied structures, etc. to minimize inadvertent video or still images of uninvolved persons or property.
 - random surveillance activities are not permitted. The purpose of every flight must be detailed in the operating procedure and/or operator records
 - All missions must be approved by NB Power

6.4 Legal requirements when flying drones

Transport Canada inspectors investigate reports of unsafe and illegal drone use and may involve local police if other laws (for example, the Criminal Code and privacy laws) have been broken.

NB Power and its RPAS pilots could face serious penalties for breaking the rules. They include:

1. Individual fines of up to \$1000 and Corporate fines of up to \$5000 for:
 - flying without a RPAS license
 - flying unregistered or unmarked RPAS
 - flying where you are not allowed
2. Individual fines of up to \$3000 and Corporate fines of up to \$15000 for putting aircraft or people at risk.

6.5 Basic Operations

- The majority of RPAS operations at NB Power will be classified as Basic which means that the pilot is only required to pass the “Small Basic Exam”.
 - Basic Operations includes:
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- Flying in uncontrolled airspace only
- Flying more than 30m (100 feet) horizontally from bystanders
- Never flying over bystanders

6.6 Advanced Operations

- Should the need for Advanced Operations be identified, the pilot must have completed the “Small Advanced Exam” and pass a flight review.
- Advanced Operations includes:
 - flying in controlled air space
 - flying over bystanders, and
 - flying within 30m (100’) of bystanders (measured horizontally)
- Prior to flying in controlled airspace the pilot must seek permission from air traffic control to fly in controlled airspace.

R. Condon

Director of Total
Health & Safety

DOCUMENT APPROVAL/REVISION RECORD

Revision #	Date yyyy/mm/dd	Revision Summary	Author	Reviewed By	Approved By
New	2019-10-03	New Standard	Martin Boucher	Tony Crawford Dave Smith	Robin Condon
01	2022-03-28	- Removed name/number on drone. -Added provision for drone operations under 250g.		Dave Smith	Robin Condon