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. It ensures 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.

To align with industry terminology, these devices will be referred to as **RPAS** throughout this document.

Transport Canada oversees transportation safety and is responsible for issuing operating permits and certifications, including those related to aviation.

The Special Flight Operations Certificate (SFOC), required for certain flight operations is issued from Transport Canada's Civil Aviation Regional Office in the region where the flight originates.

For additional questions on NB Power drones, registrations, pilot certification or NB Power drone insurance email drone@nbpower.com

2.0 SCOPE

This standard applies to the use of RPAS for all NB Power facilities, assets, infrastructure, and for any work conducted on behalf of NB Power in these locations.

3.0 REFERENCES

Canadian Aviation Regulations (SOR/96-433) Aeronautics Act	Part IX — Remotely Piloted Aircraft Systems
NAV Canada	NAV Canada produces aeronautical information products for use by pilots and RPAS operations in Canadian airspace.
Transport Canada Standard 921	Small Remotely Piloted Aircraft System (VLOS Visual Line of Sight) 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 250 grams (g) and up to and including 25 kilograms (kg), Operating within Visual Line-of-Sight (VLOS)
Form # 0461	Perform a pre-flight and post flight inspection of the RPAS and document findings on appropriate form (Appendix A)

4.0 TERMS AND DEFINITIONS

Advanced Operations	Should the need for Advanced Operations be identified, the pilot must have an Advanced Pilots Certificate.
Advertised Events	It is prohibited to fly a drone of **any size** at an advertised public event such as concerts, festivals, markets, sporting events without a SFOC.
AGL	Above Ground Level
Basic Operations	The majority of RPAS operations at NB Power will be classified as Basic which means that the pilot is only required to have the Basic Pilots Certificate. It's the pilot's responsibility to determine license requirements
BVLOS	Beyond visual line of site. Flying a RPAS outside the Pilots direct visual range, relying on technology like cameras, sensors and GPS for navigation and situational awareness.
Bystander	Refers to anyone that is not directly associated with the operation. Among others, this excludes the pilot and crew.
Controlled Airspace	Airspace of defined dimensions within which Air Traffic Control service is provided.
Class F restricted airspace	Identified by CYR followed by three numbers (e.g. CYR123) is a special use airspace where aircraft operations are restricted and require authorization from the user agency specified in the Designated Airspace Handbook.
Drone	Unmanned aerial vehicle that is operated from a distance whether for recreational, research or work use. These will be referred to as RPAS.
Emergency Response Airspace Restriction	Prohibits drone flights over or within an emergency security perimeter established by authorities (wildfire, crime scene or natural disaster) exceptions are operations in service of a public authority (police, fire, search and rescue drones) or flights to save human life.
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. If a drone goes rogue or is no longer under pilot control and could enter Class F restricted airspace, the operator must immediately notify the appropriate air traffic control unit or authority.
Foreign Operators	Operators providing a commercial air service with drones must be Canadian citizen, permanent resident, or a Canadian-controlled corporation. Recreational foreign operators are required to obtain an SFOC.

Micro-drone < 250 grams	Micro-drones are drones weighing less than 250g. The weight of the remote control is not factored into the weight calculation, but the weight of anything attached or carried, such as optional cameras, safety cages and battery packs, will be considered part of the weight. Micro-drones cannot be registered with Transport Canada.
NOTAM	Notice to Air Men. Notice that informs pilots of potential hazards along a flight path. Transport Canada may require NOTAM for SFOC flights.
Populated area	Having more than 5 people per square kilometer.
Recency Ongoing Training Requirements	24-month recurrent training program to ensure (RPAS Pilots stay current and proficient.
Restricted Airspace	Prohibited and Restricted areas include Canadian Forces Bases, Nuclear Power Plants, Active Wildfires. Emergency response areas, SFOC, NOTAM and other rules may apply.
RPAS	Remotely Piloted Aircraft Systems previously referred to as UAV's or drones
RPAS Category	RPAS operations typically fall into one of three categories; based on size of Drone: less than 250 grams (micro drone), greater than 250g and less than 25kg, Over 25kg. At NB Power operations are further defined based on risk table.
RPAS Pilot	RPAS pilots must follow the rules in the Canadian Aviation Regulations (CARs). Pilots must at a minimum carry a valid Basic pilot Certificate and only fly drones that are marked and registered..
SFOC – Special permission	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. You need this certificate if you want to fly your drone for some special operations like BVLOS.
Sparsely populated area	Having more than 5 but not more than 25 people per square kilometer.
UAS	Unmanned Air (Aerial) System – Consists of the RPAS, the ground-based controller, and the system of communications used to command the RPAS.
Visual Observer	Means a trained crew member who assists the RPAS 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.

5.0 ROLES AND RESPONSIBILITIES

Outdoor Operations

5.1 Employer and RPAS Pilot

- Ensure that any person who operates a RPAS has received training on the safe and proper operation of a RPAS and is in possession of at a minimum, a valid RPAS Basic Pilot Certificate as outlined in the Aeronautics Act and Standard 921. All NB Power employee related training must be recorded in NB Power Training Records.
- Ensure that all RPAS greater than 250 grams are marked with their Transport Canada registration number, before permitting the RPAS to be flown.
- 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 Transport Canada.
- Ensure that the RPAS pilot maintains a visual line of sight (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.
- 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 all RPAS are maintained as per manufacturers' instructions. Maintenance records retention is 2 years.
- Ensure that flight 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. Flight records and logbook retention is one year.
- Ensure that all RPAS pilots are provided communication devices that will enable immediate contact with either ECC, the NB Power Controlling Authority, and when applicable, local emergency phone numbers for facilities 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.
- Ensure pre / post flight inspection is completed (Form #0461).

- Ensure a documented Tailboard C/Pre-Job Brief is performed prior to operating a RPAS.
- In the event of an incident, ensure an incident report is filed using the NB Power 145 incident reporting process. If applicable also report to Transport Canada. Be sure to include the following additional details
    - Latitude and Longitude
    - Flyaway (Y/N)
    - Heading
    - Weather description.
    - Aircraft recovered (Y/N)
    - Battery percentage remaining.

5.2 NB Power Employee or Contractor- RPAS Pilot (Outdoor Operations)

- Ensure at a minimum that a valid RPAS Basic Pilot Certificate is immediately available upon request by NB Power or Transport Canada.
- Ensure that all RPAS are operated in accordance with the Aeronautics Act.
- Ensure training requirements are met as per section 901.54 of the Aeronautics Act. for either Basic or Advanced Operations. This training must be recorded in NB Power Training Records for NBP employees and available on request for contractor pilots. If RPAS is under 250g, pilot must hold Basic Operations License.
- Ensure that flight 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. (Appendix B,C)
- Ensure that the flight records, which may be in the form of an electronic or physical logbook, are made available upon request by NB Power or Transport Canada.
- Ensure that proof of insurance is available upon request by NB Power or Transport Canada.
- Perform a pre-flight and post flight inspection of the RPAS and document findings on Form # 0461. (Appendix A)
- Complete a documented Tailboard Pre-Job Brief prior to operating a RPAS.
- In the event of an incident ensure an e-form 145 is filed for any incident as defined in section 901.49(1) of the Aeronautics Act If applicable also report to Transport Canada. Be sure to include the following additional details
    - Latitude and Longitude
    - Heading
    - Flyaway (Y/N)
    - Weather description.

- Aircraft recovered (Y/N)
- Battery percentage remaining.

5.3 Indoor Operations

Indoor Operations of a RPAS does not fall under the Aeronautic Act, Transport Canada does not regulate indoor flights.

- NB Power Employee or Contractor Pilot must have a basic pilot license
- NB Power Employee or Contractor Pilot must have permission from Controlling Authority
- Form 0461 not required
- NB Power Employee or Contractor Pilot must have a Tailboard / Pre-Job Brief that includes a recovery plan

6.0 GENERAL REQUIREMENTS FOR RPAS OPERATION AT NB POWER

6.1 RPAS Category are based on size of Drone:

Category 1: RPAS < 250g Micro-Drone (see Risk Level Table section 7.2)

- Basic Pilots license required
- Do not need to register Micro Drones
- Drone must be NB Power owned, or Contractor owned and maintained (no personal drones)
- Contractor must have drone specific insurance

Category 2: RPAS > 250g, < 25kg (see Risk Level Table section 7.2)

- Basic Pilots license required.
- Must be registered and marked with Transport Canada registration number.
- Drone must be NB Power owned, or Contractor owned and maintained (no personal drones)
- Must have drone specific insurance

Category 3: RPAS > 25kg (see Risk Level Table section 7.2)

- Advanced Pilots license required
- Must be registered and marked with Transport Canada registration number
- RPAS must be NB Power owned, or Contractor owned and maintained (no personal drones)
- Must have drone specific insurance

- Must have 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

6.2 RPAS Risk Level table

Table to determine level of risk and appropriate contacts for the work.

Risk:	**Low Risk**	**Medium Risk**	**High Risk**	**Advanced Operations**
Flight Location:	Generating facilities / NB Power buildings	Within NBP Transmission right of ways	Within NBP Terminals / Substations	Special flight locations as required by Transport Canada example: Near Aerodromes
License Requirement:	Basic License	Basic License	Basic License	Advanced License With SFOC (if required)
Location Ruleset:	Indoor/Outdoor	Outdoor	Outdoor	Outdoor
RPAS Weight:	< 250g > 250g, < 25kg	< 250g > 250g, < 25kg	< 250g > 250g, < 25kg	> 25kg's
Visual Observer Requirements:	No visual observer required	No visual observer required	Visual observer required	Visual observer required unless BVLOS
Permission Requirements:	Contact Controlling Authority	Contact PSO prior to take off	Contact DSO/PSO three business days prior and prior to take off	Contact appropriate stakeholders

6.3 Flying your RPAS at NB Power

6.3.1 RPAS pilot must: (unless advanced licensing or SFOC allows otherwise.)

- Maintaining Visual Line of sight
- Keep within 122 meters (400') above ground level
- Ensure a minimum horizontal distance of 30 meters away from bystanders
- Keep away from emergency operations and advertised events, such as forest fires, concerts and parades

- Keep 3 nautical miles (5.6 kms) away from airports
- Keep 1 nautical mile (1.9 kms) away from heliports
- Stay outside of controlled airspaces
- Keep 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. Suspicious drone activity should be reported to the authorities.

6.4 The RPAS Pilot must contact ECC or Asset Controlling Authority when:

- Operating RPAS inside a defining perimeter (fence line) of a NB Power Substation (DSO phone # 800-561-4393) or NB Power Terminal (PSO phone #: 506-458-4636)
- Operating RPAS within the boundary of Transmission right of ways, (PSO phone # 506-458-4636)
- Operating RPAS within the boundaries of Generation Assets or NBP Facility's contact the local Controlling Authority and security if applicable.
- Refer to Risk Level Table (section 7.2) for more details

6.5 General requirements:

- 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.

6.6 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 flight plan.

6.7 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 / Contractors and its RPAS pilots could face serious penalties for breaking the rules.

7.0 TRAINING RECORDS

7.1 Pilots shall:

- Keep your knowledge and skills up to date once you have obtained your pilot certificate. You can do so by completing any one of the following every two years:
  - Re-write Small Basic Exam
  - Pass a Flight Review
  - Attend a safety seminar endorsed by Transport Canada Civil Aviation.
  - Complete a drone recurrent training program from a drone flight school.
  - Complete Transport Canada endorsed self-paced study program: (https://tc.canada.ca/en/aviation/drone-safety/drone-pilot-licensing/drone-pilot-study-resources/recency-requirements-self-paced-study-program)
- Maintain Proof of training certificates / competence / experience

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
02	2025-01	Complete revision	Christopher Granter	Dave Smith Tim Hicks Rene Paulin Daniel Kane	Roland Roy

APPENDIX A Form 0461

Form # Form 0461 R01 (Retention – 1 Year)							
RPAS Flight Record							
Date:	Time:	WO#:					
Pilot							
Name:	Phone #:	License #:	Sign:				
Observer							
Name:	Phone #:	Sign:					
Aircraft							
Model:	Wingspan:	Registration #:	Weight:				
Planning							
NOTAMS Searched	Y / N / NA						
Landowner Permission (If Applicable)	Name:						
ECC Contact (PSO/DSO If Applicable)	Name:						
Controlling Authority Contact (If Applicable)	Name:						
Pre-Flight							
Safety Parameters Set	Y / N	Aircraft Status / Satellite Coverage OK	Y / N				
Preflight Checks Complete	Y / N	Re-check Airspace and Surroundings	Y / N				
Compass Calibrated	Y / N	Site survey attached to this document	Y / N				
Launch Longitude:		Launch Latitude:					
Temperature:	Dewpoint:	Windspeed:	Wind Direction:				
Take-Off							
Announce Takeoff and Log Time	Y / N						
Lift to 10m and pause	Y / N						
Test Flight controls in all directions	Y / N						
Landing							
Landing Zone Clear	Y / N	Inspect/Clean	Y / N				
Clear Flight Vector Back	Y / N	Complete Logs	Y / N				
Announce Landing and Log Time	Y / N	Properly Store RPAS	Y / N				
Flight Times							
Takeoff Time:		Landing Time:					

Appendix B Sample Flight Log

FLIGHT LOG			**Drone Registration #:**		
Date	Pilot	Start on Site	Time Takeoff	Time Land	End on Site
.					

Appendix C Sample Maintenance Log

MAINTENANCE LOG	**Drone Registration #:**	
Date / Time	Activity Performed	Performed By