

## 1.0 INTRODUCTION

The purpose of this standard is to ensure the safety and well-being of NB Power personnel and other personnel engaged in water operations.

This standard applies to all NB Power work conducted involving water operations, with the support of small boats and vessels. Examples below:

- Installation, inspection or maintenance of NB Power assets. (e.g. electrical submerged cable)
- Diving Operations
- Transmission and Distribution line work activities (e.g. flood work)
- Personnel and equipment transport.

Compliance with this standard is required for NB Power personnel and all contractor personnel engaged in the planning and executing of water operations performed on behalf of NB Power. Compliance with applicable federal and provincial regulations is also required.

## 2.0 SCOPE

This standard describes the requirements and basic considerations for safely conducting water operations.

NB Power and contractor personnel are expected to work cooperatively to effectively implement the requirements of this standard.

For the purposes of this document the term “**Small Boats**” shall refer to any watercraft less than 15 tons.

For the purposes of this document the term “**Vessel**” shall refer to any vessel greater than 15 tons.

## 3.0 REFERENCES

Canada Shipping Act 2001	Small Vessel Regulations SOR/2010-91
NB OHS General Regulation 91-191	Part VII Water Safety equipment

## 4.0 TERMS AND DEFINITIONS

Captain	The individual responsible for the safety of the boat, boat operation and crew. Unrelated to specific work operations (e.g. electrical disconnect)
Door-to-Door	For Operations Field staff door-to-door refers to from when an employee: <ul style="list-style-type: none"><li>• leaves home until they return home, if on call or for a Replacement Worker</li><li>• from when they arrive at the office until they leave the office, if not on call</li></ul> Unplanned (RWU) or for an outlying CSR.
PCOC	Pleasure Craft Operators Certificate
PLT	Power Line Technician
Passengers	Defined by Transport Canada as anyone not part of the crew, or normally required for the operation of the boat. This includes colleagues being transported to a work site. People do not have to pay a “fare” to be considered passengers
Power-Driven	Is in respect to a vessel, means that the vessel is propelled by an engine or has an engine on board to propel it.

SOLAS	Safety of Life at Sea
SVOP	Small Vessel Operator Proficiency
Watercraft	Any vessel or equipment not otherwise classified that might be used during water operations.

## 5.0 **ROLES AND RESPONSIBILITIES**

### 5.1 **Managers, Supervisors and Contract Administrators**

Ensure compliance with the Canada Shipping Act, for commercial registered small boats or vessels.

- The vessel shall be commercially registered.

### 5.2 **Captain**

The Captain of any small boat or vessel engaged in water operations has overall authority, responsibility and safety of those operations. The exception is any electrical, mechanical or other operations, these shall be the responsibility of the specialized person onboard (e.g. Power Line Technician).

The Captain is responsible for the following:

- Ensure small boat inspection is completed. Reference *Section 6.4 Pre-Launch checks of Small Boats*
- Ensure tailboard meeting is held prior to the work commencing. Any crew member may perform the tailboard depending on the work to be performed.
- Ensure that the weight on the conformity label affixed to the small boat is not exceeded by personnel and equipment to maintain stability.
- Ensure that all crew members are dressed in accordance with the NB Power's Health & Safety standard *HSEE-03-11 Personnel Protection Equipment (PPE)*.
- Give final approval for the boat transportation to commence.
- Can abort the operation at any time in relation to the safety and integrity of the vessel.
- Never moor a boat below working above

### 5.3 **Boat Crew**

The crew is responsible for the following:

- Adhere to all safety rules and practices. (e.g. PPE)
- Adhere to the direction given by the Captain.
- Conduct themselves in a manner whereby they will not be a hazard to themselves or other occupants of the watercraft.
- Can refuse unsafe work at any time (e.g. boat transportation).

### 5.4 **Specialized Boat Crew**

Specialized boat crew refers to specialized or qualified personnel (i.e. Power Line Technicians,

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Mechanics or inspectors) who are responsible for the overall safety of the work to be performed

## 5.5 Total Health and Safety Department

Reserves the right to complete a comprehensive, independent, on-site inspection/audit and record of review.

## 6.0 STANDARD

The nature of NB Power operations requires utilizing small boats for inspections, maintenance activities, diving and flood response. Small boat operations contain an elevated level of risk.

Where there is the possibility of conducting larger operations with vessels, they shall adhere to Federal Regulations and any additional requirements set by Transport Canada or NB Power.

The objective of this standard is to describe the requirements for small boat operations.

*Small Vessel Regulations* are regulated under the Canada Shipping Act 2001. These regulations specify the requirements for safety equipment, the licensing of the non-pleasure watercraft, engine power, capacity, life jackets, PFDs, pyrotechnic distress signals, extinguishers and first aid kits.

Before departure, all persons aboard should be thoroughly briefed about the location of safety equipment, its use, and the procedures to be followed for abandoning the water craft, rescue procedures for a person overboard, or any threat to the integrity of the boat. Safety measures should also include those related to the protection of limbs, the avoidance of ropes and docking lines, and the effect of movement and grouping of people relative to the stability of the vessel.

Only vessels which comply with the [Canada Shipping Act Small Vessel Regulations](#) shall be used.

### 6.1 Planning

Pre-planning is a key element in a successful small boat operation. Before any use of small boat resources, a proper plan of operations shall be discussed and agreed by affected parties.

Conditions may change during small boat activities and to minimize the impact of such changes, consideration shall be given to those conditions which could have a significant impact on the operation, for example adverse weather, fog, snow, rain, squalls and wind conditions as well as changing water conditions, e.g. rough waters. Contingency plans for such possibilities must be put in place and discussed at the planning and tailboard meetings, such as right to refuse unsafe work.

- During the planning stage, it shall be the aim to both minimize the number of small boat operations and maximize the benefit from each operation. Tasks shall be prioritized by evaluating risks.
  - Clear contingency guidelines shall be highlighted at the tailboard meeting.
  - Duration of the small boat mission must be estimated based on conditions (e.g. temperature high/low, squalls, fog, daylight remaining, or shift changes).
  - Only the minimum number of people required should be in a small boat. The total number of people aboard should never exceed the safety rating for the watercraft.
  - **Strong Winds and Small Craft Warnings:** Strong winds are defined as winds with sustained wind speeds in the range of 20 to 33 knots (anything greater than 35km/hr) . Water surface conditions during a strong wind advisory are very rough with waves 3 to 6 m in height. It is not
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safe to operate a boat in these conditions.

## 6.2 Contingency Planning

There shall always be contingency plans in place to cover breakdowns, accidents or significant changes of circumstances during small boat operations. The contingency plan should consider the following.

- Person Over Board
- Water conditions (rough waters)
- Vessel collision (object or another vessel)
- Temperature (high/low- heat stroke/hypothermia)
- Communications failure (radio/mobile)
- If working out on the water or at a remote location, a shore location should be predetermined where to meet emergency equipment, so personnel have easy access to affect a rescue or remove a victim to hospital.

## 6.3 Operational Safety Criteria

- At the tailboard meeting, all the elements that make up the safety and efficiency of the operation shall be highlighted. The areas to be highlighted shall include but not be restricted to the following:
  - The operation plan overview
  - Contingency plans
  - Worksite safety
  - Operating conditions (weather etc.)
  - Duration
  - Communication Channels
  - PPE Checks
  - An opportunity for **any** personnel involved to raise **any** concerns that they may have.
  - Right to refuse unsafe work
- In periods when there are few operational radio calls, the captain is to give a radio/mobile status check at appropriate pre-agreed intervals. The person responsible for communications shall also check radio communications with the Small Boat if they are longer than agreed check in periods.
- The suggested check in time from boat captain to communications is one hour.
- It is recommended water activities cease one hour before sunset where possible.

## 6.4 Pre-Launch Checks of Small Boats

This pre- launch checklist is a guideline and shall be completed prior to the mission commencing, additional checks may be required depending on the type of small boat you are utilizing.

- The Captain shall have on board a PCOC or a SVOP Certificate.
  - Check fuel oil level
  - Check operation of fwd/rev lever and throttle control
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- Check turning radius of engine and freedom of movement
- Check that all lifesaving equipment is onboard
- Place tool box with necessary tools in small boat and secure
- Check operation of radio with a radio check or mobile device.
- Check the navigation lights, searchlights and horn if applicable.
- Check that the battery connections are tight, clean and fully greased.
- Check the boat is clean and in good condition (e.g. no leaks, bilge clean).

## **6.5 Boarding Small Boats**

- Stand clear of the boat and dock edge during docking procedures. Do not attempt to board until the watercraft is securely tied to the dock and the Captain gives the permission to board.
- Only one person at a time boards or departs the small boat.
- Never under any circumstances place arms, legs or any other part of the body between the boat and dock or between two boats.
- Do not block access to the watercraft's cleats. If you are unsure where to stow your gear or other equipment, ask.

## **6.6 Transfer of Personnel or Equipment**

NO personnel or equipment transfer shall be conducted at sea (river, lake), except in the event of an emergency and at the discretion of the Captain.

## **6.7 Working from Small Boats**

When working in a small boat to perform electrical or mechanical work (e.g. line disconnects, meter disconnects) please adhere to the T&D operating rules and regulations.

### **6.7.1 Hazards associated with Flood Waters**

- Water is contaminated.
  - When water has calmed and appears stagnate, be cognitive of current which may not be visible.
  - If in the event your clothing and/or boots become immersed in flood water, please bring to the office in a bag to be professionally cleaned.
  - If your vehicle has come in contact with flood water, please have your vehicle washed.
  - Entering into the water is the last resort.
  - Do not enter the water alone.
  - If you do enter the water, walk very slowly feeling your way.
  - If you enter the water with your vehicle, proceed with caution. If you are driving through water, proceed slowly to minimize the wake of the water.
  - If you are required to get into a boat, you must be wearing a Transport Canada approved
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flotation suit.

### 6.7.2 Meter disconnects and Line Disconnects (e.g. Climbing pole) from Small Boat

- Ensure the small boat is stable.
- Tie off the boat as applicable.
- Ensure you have the correct PPE for task (e.g. Arc Flash clothing).
- Await Captain approval to transfer to and from boat to pole.
- Boat to be positioned away from under the work while in progress
- Adhere to T&D operating rules and regulations.

### 6.8 Vessel Stability

NB Power shall ensure the owner and operator of a commercial vessel adheres to the *Small Vessel Regulations*. The owner and operator (Captain) of a commercial vessel requires that the vessel has adequate stability to safely carry out its intended operations.

**Vessels 6 meters and under:** Acceptable and suitable standards for demonstrating stability evaluation are contained within Construction Standards for Small Vessels (2010) - TP 1332 E, Chapter 4 and the Small Vessel Regulations SOR/2010-91.

Normally on small vessels, this is detailed in the conformity label/notice. See example in *Appendix "C"*.

### 6.9 Safety and firefighting Equipment Small Boats 6 metres or less

The requirements for safety and firefighting equipment are listed below in Table 1.

<b>Table 1: Required Safety Equipment</b>	
<b>Vessel length 6 metres or less</b>	
Transport Canada approved lifejacket, sized for each person on board	YES
Transport Canada Approved flotation suit in water temperature less than 15°C	YES
Marine emergency first aid kit (see requirements below in section 6.9.1 first aid kit for required contents)	YES
Re-boarding device if vertical height to be climbed is more than 0.5 meters	As applicable
Buoyant heaving line or lifebuoy at least 15 meters long	YES
Watertight flashlight	YES
Flares	YES 3 (other than smoke signals)
Manual propelling device (e.g. oars) or an anchor at least 15 meters long	YES
Manual bilge pump or Bailer	YES
Sound signaling device is a pea-less whistle or a compressed gas or electric horn	YES

Navigation lights	YES
A Class 5B:C portable fire extinguisher. Note: A workboat that is not more than 6 m in length and that has an enclosed engine space shall have provision for discharging a portable fire extinguisher directly into the engine space without the need to open the primary access to that space	YES

### 6.9.1 First Aid Kit

First aid kit shall meet or exceed the requirements of NB Power (with the addition of a resuscitation face shield and two pairs of examination gloves if the kit does not already contain them).

### 6.10 Communications

- Language to be used shall be agreed upon for all radio and mobile communications.
- Agree on a working channel. A backup channel is on channel 16.

### 6.11 Working in Extreme Weather Conditions

The following is recommended for all work in extreme temperature conditions, both hot and cold, and is intended to assist employers, workers, and other workplace personnel in understanding the effects of extreme temperatures on the body, and to prevent any such effects in the workplace.

The greatest dangers are heat exhaustion or heat stroke and frostbite or hypothermia. Although weather and environmental conditions inside and outside present challenges to work, there is still a need to abide by the health and safety requirements.

#### 6.11.1 Working in Extreme Cold

At very cold temperatures, the most serious concern is the risk of hypothermia or dangerous overcooling of the body. Another serious effect of cold exposure is frostbite or freezing of the exposed extremities such as fingers, toes, nose and ear lobes. Hypothermia could be fatal in the absence of immediate medical attention.

Warning signs of hypothermia can include complaints of nausea, fatigue, dizziness, irritability or euphoria. Workers can also experience pain in their extremities (hands, feet, ears, etc.), and severe shivering. Workers should be moved to a heated shelter and seek medical advice.

### 6.12 Training and Qualifications

A Captain operating a small commercial vessel must have either a:

- PCOC (Pleasure Craft Operators Certificate)
- SVOP (Small Vessel Operator Proficiency)
- Certificate dependent on the requirements in table below.

PCOC is required	SVOP is required
Under 8 meters (~26.3') in length	More than 8 metres (26.3') in length

Under 10 gross tons	Being operated more than 3.7 kilometers from shore in "near coastal, Class 2" waters
Operated in sheltered waters. Which is defined as any waters in Canada on a lake, or a river above tidal waters, where a small boat can never be further than two kilometers from the closest shore.	Transporting more than six passengers* (*see definition below)
Not carrying more than six passengers* (*see definition below)	
Not towing another vessel	
<b>Passengers:</b> Defined by Transport Canada as anyone not part of the crew, or normally required for the operation of the boat. This includes colleagues being transported to a work site. People do not have to pay a "fare" to be considered passengers	

## APPENDIX

- Appendix "A" Person Overboard (POB) Procedure
- Appendix "B" Pre-Launch Checklist (basic)
- Appendix "C" Conformity Label/Notice

## DOCUMENT APPROVAL /REVISION RECORD

Revision #	Date yyyy/mm/dd	Revision Summary	Author	Reviewed By	Approved By
01	2019/03/30	Revised Standard	Ian Case	Shelley Parker	Robin Condon

*R. Condon*

Director of Total  
Health & Safety



## Appendix "A"

### Emergency Procedure

#### *Person Overboard Retrieval Purpose*

- To maintain sight of a person overboard while maneuvering
- To recover the person safely as quickly as possible

#### Responsibilities

- Spotter – to keep the person in sight and provide assistance
- Master – to bring the vessel back to the person safely and quickly

Step	Person Overboard
1.	Whoever sees the victim fall overboard shouts "man overboard!" at the top of their voice(s) and points to the victim.
2.	The spotter(s) continues to point to the victim until the vessel reaches the victim. <i>It is vital that spotters do not take their eyes off the victim at any time and that they continue to point throughout.</i>
3.	Throw into the water readily available objects that the victim could use to keep afloat.
4.	Master -Turn stern (propeller) away from victim by turning the wheel towards the side of his departure and proceed in direction indicated by spotter
5.	Alert other vessels in the vicinity so that they can help and do not endanger the person.
6.	Make a slow, powered approach into the wind, reducing to dead slow as you approach the victim.
7.	Kill the engine (kill cords) when the victim is grasped.
8.	If there are significant swells, use the heaving line or lifebuoy to avoid the vessel coming down on the victim
9.	Bring the victim onboard and administer first aid as required.
10.	Complete an incident report Form 145 and advise Supervisor of the incident


Transport Canada Version 1.0

Date modified: 2018-03-06

We have adopted Transport Canada's procedure for person overboard. For additional information or the most up-to-date copy, please refer to: <http://www.tc.gc.ca/eng/marinesafety/debs-small-vessels-procedures-person-overboard-2996.htm>.

**Appendix “B”**

**Pre-use Checklist - The Captain will:**

	<b>Action</b>
	Have onboard their Small Vessel Operator Proficiency or Pleasure Craft Operators certificate.
	Check fuel oil level.
	Check operation of fwd/rev lever and throttle control.
	Check turning radius of engine and freedom of movement.
	Check that all lifesaving equipment is onboard.
	Place toolbox with necessary tools in small boat and secure.
	Check operation of radio with a radio check of mobile device.
	Check the navigation lights, searchlights, and horn if applicable.
	Check that the battery connections are tight, clean, and fully greased.
	Check the boat is clean and in good condition (e.g. no leaks, bilge clean).
	<p>Ensure tailboard meeting is held by team prior to work commencing, including:</p> <ul style="list-style-type: none"> <li>_____ The operation plan overview</li> <li>_____ Contingency plans</li> <li>_____ Worksite safety</li> <li>_____ Operation conditions (e.g. weather)</li> <li>_____ The operation plan overview.</li> <li>_____ Duration</li> <li>_____ Communication channels</li> <li>_____ PPE checks</li> <li>_____ Opportunity to anyone to discuss concerns</li> <li>_____ Right to refuse unsafe work.</li> </ul>
	Ensure the weight on the conformity label affixed to the small boat is not exceeded by personnel and equipment to maintain stability.
	Ensure that all crew members are dressed in accordance with the NB Power’s Health & Safety standard <i>HSEE-03-11 Personnel Protection Equipment (PPE)</i> .
	Call Local Command Centre Restoration Coordinator or Control Room for a check-in prior to launch, every hour, and upon returning to shore at the end of shift.
	Give final approval for the boat transportation to commence.

**Boat Captain:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Appendix “C”

**Conformity Label/Notice**

<b>CANADIAN COMPLIANCE NOTICE</b>
<b>SAFEBOAT COMPANY INC. (MIC)</b> <b>CITY, PROVINCE, COUNTRY</b> <b>MODEL: RUNABOUT 555X</b>
<i>* ADDITIONAL INFORMATION</i>
The manufacturer declares that this vessel complied with the non-pleasure craft construction requirements of the small vessel regulations, as they read on the day on which the construction of the vessel was started or on the day on which it the vessel was imported  This vessel is also suitable for pleasure craft use.

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