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COMPLIANCE GUIDE FOR HUMAN-POWERED NON- PLEASURE VESSELS

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APPLICATION

These Guidelines apply in respect of a human-powered vessel other than a pleasure craft.

“Human-powered” means that the vessel is not propelled by an engine and is not fitted with an engine onboard to propel it.

Racing canoes, racing kayaks and rowing shells engaged in official racing, competition activities or sanctioned regattas that are governed by safety guidelines and procedures established by the governing body are not required to carry onboard the safety equipment required by the [Small Vessel Regulations](#) and outlined in this Guideline if the vessel is attended by a safety craft that is carrying onboard a personal flotation device or lifejacket of an appropriate size for all persons.

- See sections 312-314 and 518 of the [Small Vessel Regulations](#) for details on racing vessels.

“Guided excursion” means a non-competitive outdoor recreational activity or excursion led by a person in charge of the activity or excursion (Guide) during which the participants use a human-powered vessel. The human-powered vessel operated by the guide is a non-pleasure (commercial) vessel while the participant’s vessel is a pleasure (recreational) craft. The requirements for human-powered pleasure craft are not covered in this Guideline.

- See section 300 of the [Small Vessel Regulations](#) for details on guided excursions.
- See Part 2 (Safety Equipment for Pleasure Craft) of the [Small Vessel Regulations](#) for the safety equipment requirements for pleasure craft.

Note: Some regulatory requirements apply retroactively to all vessels, while others may only be applicable to vessels constructed after a certain date. The current version of the applicable Regulation should be consulted to determine the application of a particular requirement to your vessel.

INTRODUCTION

The purpose of this document is to provide a convenient and organized reference document to the various regulatory requirements and standards in Canada that apply to human-powered non-pleasure vessels and to support the safety and protection of persons working onboard these types of vessels in Canada.

The authorized representative, owner, operator, designer and builder of a human-powered non-pleasure vessel must always refer to the most recent version of the [Canada Shipping Act, 2001](#) (CSA 2001) and Regulations, as these Guidelines do not replace the legal requirements and may not capture recent changes made to the various Regulations. Canadian statutes and Regulations prevail in the case of conflict with these Guidelines.

When applying the Regulations and Standards referred to in these guidelines, the local Transport Canada Centre may be contacted for clarification on application or interpretation.

If technical advice is required a marine consultant with expertise regarding human-powered non-pleasure vessels and the Canadian regulatory regime should be contacted.

CHECKLIST

For help answering these questions refer to the guidance notes starting on page 5.

1. Safety Procedures		Yes	N/A
1.1	Are all participants and passengers given a complete pre-departure safety briefing? (SVR 304 , 307)		
1.2	For each voyage, is there a record onshore of the number of passengers and crew on board and the voyage to be undertaken? (SVR 305 , 308)		
1.3	<i>If the water temperature is less than 15° C:</i> Do you have equipment onboard or established procedures to protect all persons onboard from hypothermia and cold water shock? (SVR 303 , 306)		
1.4	Are there procedures for safely operating the vessel, including dealing with emergencies? (CSA 2001, section 106)		
Comments:			

2. Navigation Equipment		Yes	N/A
2.1	Is there onboard a sound-signalling device or sound-signalling appliance? (SVR 311)		
2.2	<i>If the vessel is operated after sunset or before sunrise or in periods of restricted visibility (ex. fog):</i> Are the appropriate navigation lights on board? (SVR 311 , COLREGS Rule 22 and 25)		
2.3	<i>If the vessel is more than 8 metres and navigating out of sight of seamarks:</i> Is there a magnetic compass on board? (SVR 311)		
Comments:			

3. Structural Strength and Stability		Yes	N/A
3.1	Does the vessel have adequate structural strength to safely carry out its intended operations? (SVR 601)		
3.2	Does the vessel have adequate stability to safely carry out its intended operations? (SVR 601)		
Comments:			

4. Safety Equipment		Yes	N/A
4.1	Is every person onboard wearing a PFD or lifejacket of an appropriate size? (SVR 303 , 310)		
4.2	Are all PFDs and lifejackets that are to be worn by a person less than 16 years of age inherently buoyant? (SVR 302)		
4.3	<i>If the vessel is used on class 3 or above waters:</i> Is every person on board the vessel wearing a helmet of an appropriate size? (SVR 303 , 310)		
4.4	Is there onboard a buoyant heaving line of not less than 15 metres in length contained in a throw bag? (SVR 310)		
4.5	Is there onboard a watertight flashlight? (SVR 310)		
4.6	<i>If the vessel is NOT more than 6 metres in length:</i> Are there onboard three pyrotechnic distress signals (flares, type A, B or C), other than smoke signals (type D)? (SVR 310 and 20)		
4.7	<i>If the vessel is more than 6 metres in length:</i> Are there on board six pyrotechnic distress signals (flares type A, B or C), other than smoke signals (type D)? (SVR 310 and 20)		
4.8	Is a first aid kit onboard? (SVR 309 and 8)		
4.9	Is there onboard a bailer, a manual bilge pump or bilge-pumping arrangements? (SVR 311 , 19 and 22)		
4.10	<i>If the re-boarding height from the water is greater than 0.5 metres (20 inches):</i> Is there a re-boarding device onboard? (SVR 310)		
Comments:			

5. Pollution Prevention		Yes	N/A
5.1	Are you aware that it is prohibited to discharge an oil or oily mixture over board? (SVR 1002)		
5.2	Are you aware that it is prohibited to discharge noxious liquids (chemicals) over board? (VPDCR 67)		
5.3	Are you aware that it is prohibited to discharge sewage over board? (VPDCR 95)		
5.4	Are you aware that it is prohibited to discharge garbage over board? (CSA 2001 187 , VPDCR 4)		
Comments:			

ABBREVIATIONS

ABBREVIATIONS USED IN THIS DOCUMENT

<u>ABYC</u>	American Boat and Yacht Council Standard (www.abycinc.org)
<u>CGSB</u>	Canadian General Standards Board (www.tpsgc-pwgsc.gc.ca/ongc-cgsb/)
<u>COLREGS</u>	<i>Collision Regulations</i> (http://laws-lois.justice.gc.ca/eng/regulations/C.R.C.,_c._1416/index.html)
<u>CSA 2001</u>	<i>Canada Shipping Act, 2001</i> (http://laws-lois.justice.gc.ca/eng/acts/C-10.15/index.html)
<u>ISO</u>	International Organization for Standardization (www.iso.org)
<u>MPR</u>	<i>Marine Personnel Regulations</i> (http://laws-lois.justice.gc.ca/eng/regulations/SOR-2007-115/index.html)
<u>NFPA</u>	National Fire Protection Association (www.nfpa.org)
<u>SAE</u>	Society of Automotive Engineers (www.sae.org)
<u>SVMO</u>	Small Vessel Machinery Operator certificate (http://www.tc.gc.ca/eng/marinesafety/tp-tp2293-chapter33-1155.htm)
<u>SVOP</u>	Small Vessel Operator Proficiency certificate (http://www.tc.gc.ca/eng/marinesafety/tp-tp14692-menu-1373.htm)
<u>SVR</u>	<i>Small Vessel Regulations</i> (http://laws-lois.justice.gc.ca/eng/regulations/SOR-2010-91/index.html)
<u>TP 1332</u>	Construction Standards for Small Vessels (http://www.tc.gc.ca/eng/marinesafety/tp-tp1332-menu-521.htm)
<u>TP 1861</u>	Standards for Navigation Lights, Shapes, Sound Signal Appliances and Radar Reflectors (http://www.tc.gc.ca/eng/marinesafety/tp-menu-515.htm)
<u>TP 7301</u>	Stability, Subdivision and Load Line Standards (http://www.tc.gc.ca/eng/publications-marine-abstracts-598.html)
<u>UL</u>	Underwriters Laboratories (http://www.ul.com/canada/eng/pages/)
<u>VPDCR</u>	<i>Vessel Pollution and Dangerous Chemicals Regulations</i> (http://laws-lois.justice.gc.ca/eng/regulations/SOR-2012-69/index.html)

1 SAFETY PROCEDURES

QUESTION 1.1

The intent of the pre-departure briefing is to alert passengers of hazards and to advise them of procedures to follow in the event of an emergency. Your briefing should include procedures to follow in case the person operating the vessel is not able to carry out their normal duties during an emergency.

The briefing may be in English, French or both languages and must include:

- A demonstration showing the correct method of wearing each type of lifejacket or personal flotation device (PFD);
- The location of the first aid kit;
- The location of flashlights and flares;
- The location of whistles/air horns;
- The use of throw bags/buoyant heaving lines;
- An explanation of the consequences of improper passenger distribution on the stability of the vessel; and
- An explanation of how to contact the proper authorities in case of emergency.

QUESTION 1.2

In the event of an emergency, rescue services need to know where your vessel has sailed, when you are expected to return and how many persons are onboard or with the group in the case of a guided excursion.

Before leaving shore, you must leave a record of the number of persons onboard, or in the group, with a person onshore that has been designated responsible for communicating with search and rescue authorities in the event of an emergency.

If you are operating in a remote area and it is not possible to leave this information with a person onshore, then a record of the number of persons onboard, with the group, and the area of operation should be left onshore in a known or easily found location (for example, on the departure dock or in your vehicle).

QUESTION 1.3

Where the water temperature is less than 15 degrees Celsius, you must develop procedures to protect all participants against the effects of hypothermia and cold-water shock. For your own practical and legal protection, you must establish and document suitable procedures, based on local conditions or established industry best practices to fulfill this requirement.

Some examples of procedures that might be suitable:

- Carrying extra blankets
- Carrying extra clothing
- Carrying thermal equipment
- Wearing lifejackets or PFDs with thermal protection
- Travelling with other vessels

Be aware of the effects of cold water shock and hypothermia — for more information visit www.coldwaterbootcamp.com and review TP 13822, *Survival in Cold Waters*, available at: <http://www.tc.gc.ca/eng/marinesafety/tp-tp13822-menu-610.htm>.

QUESTION 1.4

Emergencies happen when least expected. As an owner or operator of a human-powered vessel you are responsible for identifying any emergency situations and developing procedures to address these scenarios. Practising responses to a variety of emergency situations will enable crewmembers to react quickly and properly to any situation. Consider scenarios applicable to your area of operation.

2 NAVIGATION EQUIPMENT

QUESTION 2.1

All boats must carry a sound-signalling device. This can be a pea-less whistle, a hand-held compressed gas horn or an electric horn.



QUESTION 2.2

At a minimum, each vessel shall have ready at hand an electric torch (flashlight) or lighted lantern showing a white light which must be exhibited in sufficient time to prevent collision.

QUESTION 2.3

The compass should be able to be adjusted and corrected. It should be capable of being illuminated for night viewing. You are not required to carry a magnetic compass if your vessel is not more than 8m in length and you navigate only within sight of seamarks. However, even if you are operating in areas within sight of seamarks, given the possibility of restricted visibility (for example, as a result of fog), carrying a compass is recommended.



3 STRUCTURAL STRENGTH AND STABILITY

QUESTION 3.1

The authorized representative, owner and operator of a human-powered vessel shall ensure that the structural strength and watertight integrity of the vessel continue to be adequate for its intended use.

Your vessel must meet the requirements of the construction standards (TP 1332, section 3); or if your vessel's design has been operated for at least five years, without a marine accident or a deficiency in its construction, in an area where the environmental conditions (wind and waves) are no less severe than those likely to be encountered in the vessel's intended area of operation, your vessel's strength is considered adequate.

QUESTION 3.2

Stability is the characteristic of a vessel that helps it stay upright. The *Small Vessel Regulations* require the owner and operator of a non-pleasure (commercial) human-powered vessel to ensure that the vessel has adequate stability to safely carry out its intended operations (SVR 601(2)).

Suitable standards for demonstrating a powered vessel's stability are contained within TP 1332, chapter 4, for vessels of not more than 6 metres and in chapter 5 for vessels of more than 6 metres (TP 1332 is available at <http://www.tc.gc.ca/eng/marinesafety/tp-menu-515.htm>). Although these are prescribed for powered vessels, they are also technically suitable for human-powered vessels. The determination of adequate stability calculations using this standard is rather complex and it is recommended that you contact a Marine Consultant to determine if your vessel has adequate stability for its intended purpose.

For typical human-powered vessels such as canoes and kayaks, other suitable standards such as the American Boat Yacht Council (ABYC) H-29 would also bring your vessel into compliance. In accordance with this standard, a canoe is to be loaded to the point where the vessel's freeboard (distance from the lowest part of the gunwale to the water) reaches a minimum 178 millimetres.

The weight required to obtain this minimum freeboard is the vessel's maximum loading capacity. A kayak is to be loaded to the point where its freeboard (distance from the top of the person opening to the water) reaches a minimum of 127 millimetres. The weight required to obtain this minimum freeboard is the vessel's maximum loading capacity.






For smaller vessels it is more difficult to have a level of stability that will prevent capsizing; accordingly operator awareness is of particular importance. The primary requirement is for the vessels to remain afloat when swamped and to provide something to hang on to. The ability of the vessels to remain afloat when swamped is provided by flotation material fitted by the manufacturer.

Please be advised that the maximum capacity you obtain from this test includes the weight of all persons, cargo and equipment carried by the vessel. You may also be able to obtain this information by contacting the vessel’s manufacturer.

4 SAFETY EQUIPMENT

QUESTION 4.1

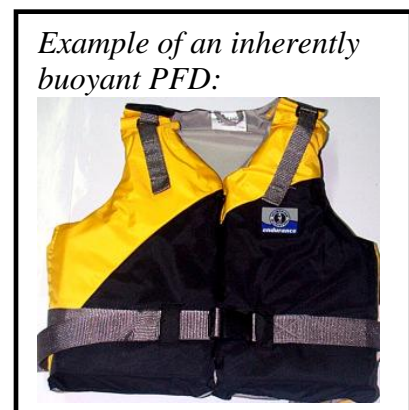
You are required to carry onboard a lifejacket or PFD of an appropriate size for each person onboard and to make sure that everyone onboard *wears* a lifejacket or PFD of an appropriate size. The chart below outlines the different types of lifejackets and PFDs.

	Lifejackets			Personal Flotation Devices (PFDs)	
Types	Standard Lifejacket 	SOLAS Lifejacket 	<i>Small Vessel Regulations</i> Lifejacket 	Inherently buoyant PFD 	Inflatable PFD 
Styles	Keyhole	Keyhole	Keyhole or vest type	Vest, coat, coverall or keyhole	Vest or pouch
Colours	Orange, red or yellow	Orange, red or yellow	Orange, red or yellow	Any colour (bright colours recommended)	Any colour (bright colours recommended)
Approval	TC	TC	TC	TC, DFO, CCG	TC, DFO, CCG
Sizes	Under 40 kg (90 lbs); Over 40 kg	Under 32 kg (70 lbs); Over 32 kg	Under 18 kg (40 lbs); 18 kg up to 40 kg; Over 40 kg (90 lbs)	Range of sizes from child to adult	Adult over 36 kg (80 lbs); adjusts to size
Turning ability? (Keeps your face out of the water,	Yes	Yes	For most people	No, provides flotation only	Not guaranteed, but tends to turn a person when

even if you are unconscious)					inflated
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QUESTION 4.2

Inherently buoyant PFDs or lifejackets do not require any action to activate flotation; they are often made from unicellular foam or macro-cellular elements. This differs from inflatable PFDs and lifejackets, where you have to pull on a tab, blow in a tube or be submerged in water to activate the inflation.



QUESTION 4.3

Operating a vessel in class 3 or above waters increases the likelihood of a person being thrown overboard. On these voyages, each person must wear an appropriately sized helmet. Wearing a helmet saves lives and protects persons from serious head injuries.

“Class 3 or above waters” (defined in section [300](#) of the *Small Vessel Regulations*) means waters that have

- (a) rapids with moderate and irregular waves; or
- (b) rapids that are stronger, have more obstructions or are otherwise more difficult to navigate than rapids with moderate and irregular waves.

“*Helmet*” (defined in section [300](#) of the *Small Vessel Regulations*) means a helmet that has a fastening system and that is designed to protect a person’s head from injury from the mid-line of the forehead to the back of the crown of the head.

QUESTION 4.4

A buoyant heaving line is thrown toward a person in the water for them to hold onto while you pull them alongside your boat. The throw bag keeps it from getting knotted and makes it easier to throw.

An example of a buoyant heaving line is a 15m x 7mm polypropylene floating rope with a bright orange nylon and polyester self-draining bag with reflective safety tape.



QUESTION 4.5

You must be sure that the batteries in your watertight flashlight are still fully charged before every trip. It is a good idea to check the flashlight regularly and to keep spare batteries on hand.

Apart from its use as emergency lighting, your watertight flashlight may be needed to signal for help.



QUESTIONS 4.6 AND 4.7

When buying marine distress flares, you should look for a Transport Canada approval stamp or label. There are four types of flares: A, B, C and D.

- Type A: Rocket Parachute Flare,
- Type B: Multi-Star Flare,
- Type C: Hand-Held Flare,
- Type D: Smoke Signal (Buoyant or Hand-Held)



Your flares must be of type A, B or C.

Remember that flares are only good for four years from the date of manufacture (not the date of purchase), which is stamped on every flare. You should also ask the manufacturer how to dispose of your expired flares.

Flares should be kept within reach and stored vertically in a cool, dry location (such as a watertight container) to keep them in good working condition.

QUESTION 4.8

You must have a first aid kit onboard your vessel. This first aid kit must be packed in a waterproof case capable of being tightly closed after use and must be **either**

1) A marine emergency first aid kit that contains the following:

- An up-to-date first aid manual or up-to-date first aid instructions, in English and French
- 48 doses of analgesic medication of a non-narcotic type
- Six safety pins or one roll of adhesive first aid tape
- One pair of bandage scissors or safety scissors
- One resuscitation face shield
- Two pairs of examination gloves
- 10 applications of antiseptic preparations
- 12 applications of burn preparations
- 20 adhesive plasters in assorted sizes
- 10 sterile compression bandages in assorted sizes
- 4 m of elastic bandage
- Two sterile gauze compresses
- Two triangular bandages
- A waterproof list of the contents, in English and French

NOTE: You may meet this requirement either by buying a kit that contains all of the above items or you may purchase the above items separately. In either situation, the items must be stored in a waterproof case.

OR

2) A first aid kit that meets the requirements of the *Maritime Occupational Health and Safety Regulations* or of provincial regulations governing workers' compensation, with the addition of a resuscitation face shield and two pairs of examination gloves if the kit does not already contain them.

QUESTION 4.9

Bailers must hold at least 750 ml (just over 1½ pints), have an opening of at least 65 cm² (10 in²) and be made of plastic or metal.

If you have a manual bilge pump, the pump and hose must be long enough to reach the bilge space and pump the water over the side of the boat.



QUESTION 4.10

When the freeboard exceeds 0.5 m (1'8") you will need a reboarding device.

Freeboard is the vertical height a person must climb to reboard the boat from the water.

A "reboarding device" (defined in [section 1](#) of the *Small Vessel Regulations*) means a ladder, lifting harness or other device that does not include any part of the vessel's propulsion unit and that assists a person to gain access to the vessel from the water.

If your vessel has transom ladders or swim platform ladders it already meets this requirement.

