

**Innovation in Standards Development, Lifejacket Marking, Labeling and Point of Sale
Information – Facilitating Harmonization to Save Lives**

By

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Abstract:

This paper explores the theme of using standards to facilitate market access and international trade. As well, it describes a new mechanism for standards development and harmonization that leverages a Standards Development Organization's accreditation in more than one country. The paper goes on to compare and contrast the traditional mechanisms used for harmonization with a new process piloted in the area of lifejackets and describes the process that was followed; which involved the creation of a single, bi-national technical committee. In looking at the impact of harmonization on an industry, the paper explores the benefits of harmonization and the positive impact harmonization can have for an industry and users. It also makes linkages between technical requirements, market access and how the creation of a larger, North American market, can spur innovation that can ultimately change behavior and save lives. In addition, the paper explains the processes used to simultaneously adopt ISO standards for Canada and the US while also harmonizing requirements across both countries. The paper also explores the benefits of this joint process for standards development and provides a case study that shows the benefits of harmonization for not only the lifejacket and personal floatation device industry, but the benefits this will also provide to users of lifejackets.

Innovation in Standards Development, Lifejacket Marking, Labeling and Point of Sale Information – Facilitating Harmonization to Save Lives

The pace of change across all sectors is accelerating; the number of new products entering the marketplace is increasing, production, distribution and the supply chain are now global, new trade agreements aimed at streamlining and opening trade are all having an impact on which products are sold as well as when and how they gain market access.

All of these things are good for consumers and manufacturers. However, despite positive changes, innovation in the personal floatation device (PFD) and lifejacket sectors in Canada and the United States have been inhibited by:

- ✘ differences in standards across markets,
- ✘ varied approval requirements by national regulators, and
- ✘ unique label and point of sale requirements for products sold in the US versus Canada.

In part, these challenges have been due to not only the underlying standards used to manufacture and approve products, but the process by which these standards have been developed and maintained.

Canada and the U.S. share the world's largest bilateral trade relationship, with total merchandise trade exceeding \$500 billion annually. Notwithstanding positive changes in the marketplace to facilitate and expand this trading relationship, standards development processes have not changed significantly over time.

Although international standards continue to be developed through international standards organizations, such as ISO, national standards bodies and standards development organizations (SDOs) continue to operate mainly within their national borders (their domestic markets) serving the specific needs of their local country, although harmonization efforts have expanded greatly in recent years. Although this approach has served the market well in the past, new approaches and innovations in standards development are required to respond to the new market realities and to facilitate market access.

As markets become more global and the supply chains becomes more integrated, separate but parallel standards development processes undertaken on a national basis cease to support competitiveness and resulting in:

- ✦ country-specific standards, developed by multiple SDOs with significant duplication of effort;
- ✦ harmonization efforts being slow, cumbersome and unsupportive of innovation;
- ✦ poor coordination between AHJs/Regulators, within & between countries, resulting in complexity and trade barriers;
- ✦ a fragmented approach to standardization.

In January 2013, Underwriter's Laboratories (UL) became accredited by the Standards Council of Canada (SCC) as a standards development organization (SDO) for Canada allowing UL to develop National Standards of Canada (NSCs) in addition to American National Standards (ANSs) under its accreditation with the American National Standards Institute (ANSI). UL's accreditation as an SDO for Canada has enabled UL to develop standards specifically for Canada, as well as, fully harmonized bi-national or joint standards for the U.S.-Canada marketplace, facilitating more efficient manufacturer access to both markets.

Traditional Standards Harmonization Process

Traditionally, the process to harmonize standards between Canada and the US has involved coordination of separate technical committees attempting to harmonize requirements for both markets (see Figure 1). Under this process, a Technical Harmonization Committee (THC) would be created with Members coming from corresponding Technical Committees (TCs) from each country. The process could be managed by participating SDOs from each country, and would normally include a Chair of the THC that would come from industry with the support of a Publication Coordinator from one of the SDOs.

The THC would collaboratively work to propose harmonized requirements, which would be reviewed and balloted. Once complete, the harmonized requirements would be sent back to each SDO who would then undergo their national process for balloting and approval as national standards within their country. Should differences arise during the national process, amendments would be proposed back to the THC for consideration and resolution. Ultimately, this process would result in a harmonized set of requirements that would be published by each SDO within their respective countries.

Although this process has helped achieve harmonization between countries in the past, there are some challenges associated with this model of harmonization, including:

- ✘ duplication of effort, given that the same basic process is repeated by each SDO and the THC;
- ✘ a process that is potentially complex and lengthy given the number of people and separate processes that need to be managed;
- ✘ the publishing of more than 1 standard with separate covers;

Traditional Harmonization Process

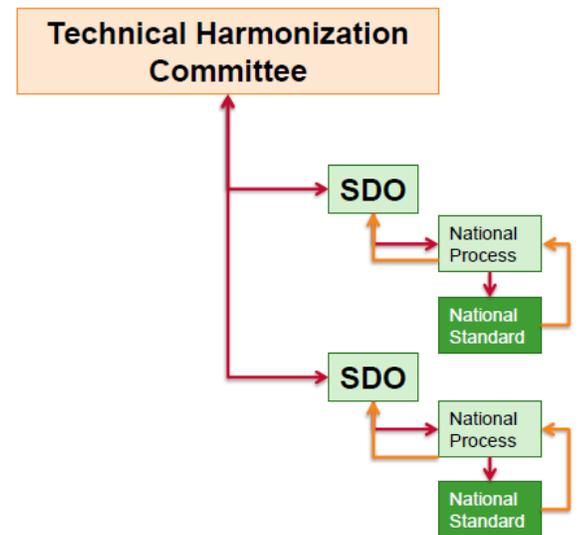


Figure 1: Traditional Harmonization Process

- ✘ the potential for de-harmonization in the long-run given that the process can be lengthy due to coordination between SDOs and national processes; and
- ✘ a less resilient process that can quickly react to changes or innovations and identified safety issues.

In addition to an inefficient process for harmonization, this approach continues to support separate standards development processes in each country administered by separate SDOs, increasing the risk of divergence since those involved are not present to understand the specific discussions and rationale that lead to decisions made resulting in the potential for national differences between countries. As well, maintaining separate domestic TCs increases the risk of de-harmonization since you have separate people sitting at separate tables discussing technical issues. Ultimately, the process remains fragmented and nationalistic.

Innovation in Standards Development – New Harmonization Possibilities

UL’s accreditation as an SDO in Canada created the possibility of a new harmonization process for standards between Canada and the US. It enabled harmonization using a single process (See figure 2).

UL, as an accredited SDO in Canada and the US can now facilitate harmonization using a single process administered by a single SDO using a joint bi-national Standards Technical Panel (STP) or Technical Committee. The Joint STP would develop a standard using its accredited procedures for each country. The process uses a traditional standards development process but would ensure that both Canadian and American requirements are met throughout the process. Appropriate stakeholders would be invited to participate and public review would be undertaken in each country.

This innovation in standards development will streamline the harmonization process by creating a single, simultaneous

New Harmonization Process

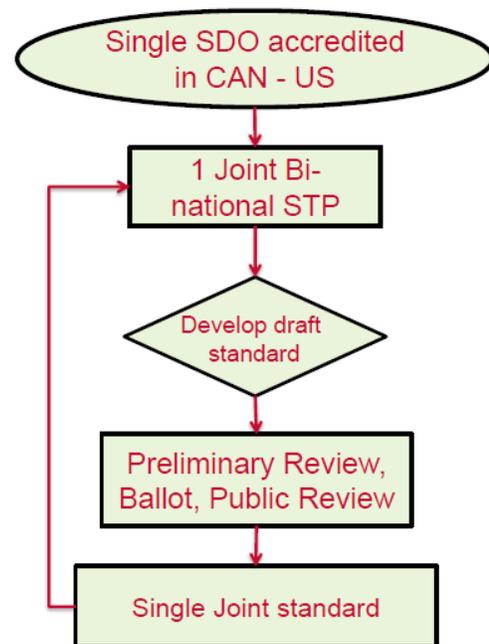


Figure 2: New Harmonization Process

process for harmonized standards development; allowing harmonization to be undertaken simultaneously at the time of original development of a standard; thereby cutting the time between the development of a standard in the US or Canada and the harmonization or adoption of that standard in the other country. Moreover, using one committee versus two separate committees will also provide the ability for technical experts to collaborate on requirements; leading to fewer national differences. The result is greater harmonization achieved more efficiently.

Using a single process will result in the streamlining of resources, lowering standards development costs and reducing effort, resources and time. In the long run, since this new process involves a single STP, harmonization is easier to maintain. This approach not only facilitates greater harmonization of standards, but it also supports government and industry objectives of facilitating domestic and international trade and fostering technological innovation by providing market access for new devices into the United States and Canada simultaneously.

From an industry perspective, this process should result in reducing additional testing, lower manufacturing costs, with less retooling and creating greater efficiencies for industry. Further benefits include greater innovation and by facilitating first edition standards to be developed concurrently for both markets; allowing new technology quicker access reducing lags and stimulating innovation.

From a safety standpoint, updates to safety standards can occur at a quicker pace and concurrently for both countries, closing gaps in safety between Canada and the US if an issue is identified.

Case Study: Lifejacket Industry

For the lifejacket industry, this innovative process has proven to be invaluable. By transitioning the UL STP for lifejackets from a US technical committee to a single bi-national STP with the appropriate US and Canadian stakeholders, this STP has within two years successfully achieved consensus on two joint Canada-US standards. Not only have two joint standards been published, these standards have been based on international standards (ISO standards) with national differences and have been published simultaneously for both countries. International harmonization will occur for both Canada and the US concurrently.

The adoption of these standards will allow for greater innovation in the Canadian and US markets for lifejackets and personal floatation devices (PFDs), creating additional choices for users which should increase wear rates and decrease deaths associated with drowning. As well, through the publication of the joint Canada – US standards, the same product (device) will be able to be sold and used in both Canada and the US for the first time.

Since a single standard was developed, regulators were able to develop a joint label acceptable to both Transport Canada and the US Coast Guard, facilitating streamlined approvals and allowing for lower certification and testing costs for producers. It also allows for greater harmonization with international standards –moving away from traditional prescriptive requirements towards more performance based requirements—thereby allowing for greater innovative products to be offered and approved for use in the US and Canada.

It is important to note, however that although the standards have been published, they have not yet been adopted into law by either the United States or Canadian appropriate regulators. At the writing of this article, the regulatory process had not yet been completed and the standards although published, remain voluntary until the adoption process is complete.

Evolution of Marking, Labeling and Point of Sale on Lifejackets

As the lifejacket standards within the United States and Canada evolve, so too should the message to the users of those devices. As one can imagine, changing a paradigm is not easily done and requires the dedication of many to fulfill the mission.

It was acknowledged during the standards harmonization effort that an opportunity may be missed to revisit the marking and labeling requirements so that the users of lifejackets could be better educated on the intended uses and applications. Understanding the positive implications for revising the current marking, labeling and point of sale information of lifejackets; various UL STP Task Groups and external focus groups were established to accomplish such a monumental task. These groups included participants from the United States, Canada and Europe. The

composition of those participants comprised of Federal and local regulatory bodies, user groups and associations, manufacturers, certification bodies, point of sale organizations and special interest groups.

Marking and Labeling: Today

As shown in Figure 3, over the past few decades, the marking, labeling and point of sale information on lifejackets have remained generally unchanged. The markings on a lifejacket have been required to include all of the required text to be located together within a defined parameter. Information such as the USCG Type and Approval number, Third Party Certification Mark, Size and various other warning and

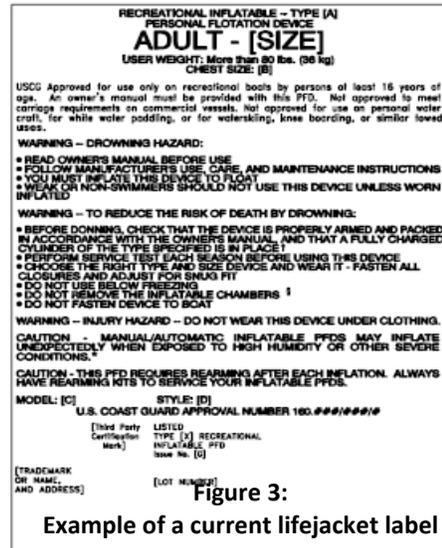


Figure 3:
Example of a current lifejacket label

caution statements were specifically prescribed within the certification standard. This type of specificity limited the creativity of the manufacturers due to the footprint needed on the lifejacket to include such information.

In addition to the information required to be printed on the lifejacket, it is also required that a “Think Safe Pamphlet” be attached. The pamphlet includes information that educates the users on the different Types of devices, how to properly fit a device, and other information that may further educate the user in regards to water safety. Although the material currently provided on lifejackets and point of sale information is important and should be delivered to the user, it has been agreed that the current vehicle for delivery is in dire need of a facelift. The current markings are too wordy and due to the amount of information required to be located on the label, the critical information on the device is lost.

Marking and Labeling: Future

Today's world is visual with the need to grab their attention quickly. Within that short duration of attention, the user must be drawn in and directed to the information that is important to them so that they make the right choice when purchasing and using a lifejacket.

The future marking and labeling on lifejackets, as shown in Figure 4, intends to replace much of the wording of the current labels with icons. The labels will consist of three panels as follows:

- 1) Selection and Warnings Panel
- 2) Certification and Approval Panel
- 3) Care and Maintenance Panel

The Selection and Warnings Panel will include information such as the size of the device, performance information, intended use such as use with towed sports, and other additional warnings.

The Certification and Approval Panel will include the USCG Approval number, Third Party Certification Body Mark, manufacturer's information and product model/style.

Finally, the Care and Maintenance Panel will include information pertaining to the service and maintenance of the lifejacket.

One of the more significant revisions is the inclusion of the performance level and turning ability within the Selection and Warnings Panel. With the removal of the USCG Type system (e.g., Type I, II, III, etc.), the intent is to replace the Type system with a performance level similar to the approach taken in Europe. As shown in Figure 4, the icon with the number 70 indicates that the device is a Level 70 performance device. In addition to the performance level, the new markings inform the user of the turning ability of the lifejacket. The draft label indicates a device that has no turning ability. The amount of turning ability is translated to the user by one of the three turning indicators shown.

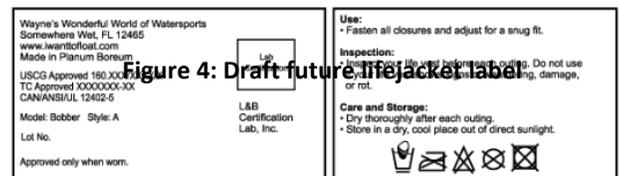
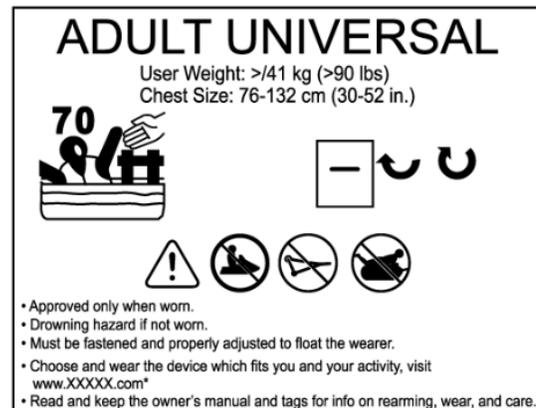


Figure 4: Draft future lifejacket label

As marking and labels evolve, it was decided that the need for a more refined mechanism at the point of sale was needed. The current “Think Safe Pamphlet” has too many pages and is seldom read by the purchaser at the time of buying the lifejacket.

Similar to the resolution for lifejacket labels, it was decided that using more icons and less wording on the point of sale information would aid the purchaser in obtaining the correct device for their activity. The current 16 page “Think Safe Pamphlet” is being replaced with a very simple two-side placard as shown in Figure 5. The draft placard below uses bright colors to attract the attention of the purchaser. The draft placard is being coined as the decoder ring for the new lifejacket labels. The information provided on the draft placard will allow the purchaser to compare the performance of one device to another. Based on the user’s activity and use environment, a sliding scale allows the purchaser to make an informed decision based on their perceived water environment. The aforementioned sliding scale informs the user that the water environment

in which the purchaser primarily intends the lifejacket to be used may impact the duration in which rescue could be available. For example, as the environment moves from near shore/calm waters to offshore/waves, the time to rescue may increase. With this information provided to the user and the point of sale, they can use this placard to determine which performance level device they should purchase.

CHOOSE THE DEVICE YOU WILL WANT TO WEAR

SIZE & FIT

- Check label for user weight and chest size.
- Different body types float differently.
- Try your device on in the water to ensure your airway is clear.
- A good fit is secure, comfortable, and adjustable.

TRY IT ON

PERFORMANCE

- Lower level number generally offers greater mobility, comfort, and style with good flotation for most people.
- Higher level number generally offers greater flotation, turning, and stability in the water.

50 70 100 150

Near Shore (Calm) (Waves) Offshore

Increasing time to rescue

No Turn Turns Some Turns Most

CONSIDER YOUR ACTIVITY & ENVIRONMENT

WATER SAFETY INFO *

- In over 80% of boating fatalities the person was not wearing flotation.
- Most of these are sudden falls overboard or capsizes of a small boat.
- The first moments in the water are critical, even for experienced swimmers.
- Cold water shock causes involuntary gasping, loss of muscle control and swim failure.
- Long term immersion in cold water causes hypothermia and requires thermal protection and flotation in the HELP position to conserve energy.

FLOTATION DEVICES SAVE LIVES

DESIGN TYPES

- **INHERENT** – built-in flotation (always buoyant)
- **INFLATABLE** – activated gas canister inflates chamber(s) (no buoyancy until time of inflation, requires canister replacement, may be manual, may require secondary action to don).
- **HYBRID** – combination of flotation and inflation (some immediate buoyancy and supplemental when inflated, may require canister replacement).
- **SPECIAL PURPOSE** – your activity may require special features (safety color, harness, straps, etc.) and accessories (whistle, lights, reflectors, etc.) for certain conditions.

YOUR DEVICE ONLY WORKS WHEN WORN

MAINTENANCE

- Over time, exposure to sun, salt, fuel, and mildew can damage device.
- Allow to air dry. Inspect and test regularly.
- Inflatables require replacement reaming, repacking and regular servicing.

READ, SAVE AND FOLLOW INSTRUCTIONS

WARNINGS

- Device must be stored correctly and securely.
- Device is not designed for certain activity or conditions such as water skiing, towed sports or use on personal watercraft.

CHECK LABEL FOR LIMITATIONS OF USE

APPROVAL

- Some devices are approved only when worn.
- Check federal, state/provincial and local requirements for carriage, use and wear.

US Coast Guard Transport Canada

WEAR IT

* For more info on the right choices for yourself, your family and friends...
Visit www.XXXXX.org

In addition to the previously mentioned information, the draft placard will also include material relating to water safety facts, the descriptions of each design type (e.g. inherently buoyant, inflatable, hybrid, etc.), maintenance, warnings and Approvals. So one may question where the additional information within the current “Think Safe Pamphlet” is going. Since much of the information is better suited after the point of sale, most of the information will be provided within the manufacturer’s user manuals or consumer education websites.

In conclusion, change can sometimes be difficult to accept, however with these changes, the goal has and will always remain the same – **INCREASE THE WEAR RATES AND SAVE MORE LIVES**. Allowing the user to make more sound decisions and choosing the right lifejacket for their activity will hopefully aid in this mission.

It should be noted that the publication of the first two joint Canada - US standards is a critical milestone in reaching the goal of facilitating trade across the border and the development of new innovative products. However, before these standards can be adopted, policy and regulatory changes must be made by Transport Canada and US Coast Guard.

At the time of the writing of this article, the adoption process had not been completed. In the meantime, both existing and new devices will be available in the marketplace. Given the nature of regulatory changes, it is expected that full transition to the new standards will take several years as manufacturers determine when they will have their product tested and certified to the new requirements. Notwithstanding the time required for full transition, the publication of the standards using the joint STP has enabled the transition and has reduced the time required for full transition by many months, or even years.