

Consolidated North American Standard Approach

Purpose: This paper is to provide background on the Consolidated North American (NA) Standard effort and document the intended approach to completing the standard.

Background: The concept of a consolidated North American standard grew out of several projects and now encompasses them in order to accomplish the goals that were articulated at the 2006 PFDMA meeting. Thus this effort is the culmination of separate, but closely related, efforts. As described in the PFDMA survey "PFDMA Membership Commitment on Consolidated Wearable PFD Standard" dated 21 May 2008:

(1) For many years Canada and the US have separately participated in the CEN/ISO standards process for personal flotation devices under the leadership of the European Standards Committee (CEN).. Both countries have expressed the long-range desire to adopt ISO standards. To this point in time each country has believed there were enough significant differences in their respective standards that they were not willing to adopt the ISO 12402 PFD standard. Limitations imposed by the European Personal Protection Equipment (PPE) Directive contributed to the differences preventing adoption of the ISO standard. Both countries have influenced changes to the ISO PFD standard in recent years and now see an opportunity to adopt the standard with a manageable number of deviations if the PFD classification system differences can be adequately handled within those deviations.

(2) As neighbors Canada and the US have also recognized the benefits of having a common North American standard and have agreed to work towards adoption of a common standard. White papers that layout the benefits of reclassification and consolidation were circulated in 2002 in the US and in 2004 in Canada to help develop the approach. In 2007 Transport Canada and the PFDMA in the US endorsed development of a consolidated NA standard. In early 2008 Canadian stakeholders indicated that more time would be required to endorse the concept as they are currently working with Transport Canada to fully understand the scope, process, and structure of Canada's involvement and are waiting for a formal statement regarding adoption of the consolidated NA standard from the regulatory body. (At the November 2008 Canadian Marine Advisory Council (CMAC) meeting, Transport Canada proposed a Life Saving Equipment Standards (LSES) Working Group to provide a framework for formal Canadian input to the Consolidated NA Standard.)

(3) In 2000 a PFD labeling and classification project was undertaken with a USCG Grant for the purpose of improving the label for US PFDs. This evolved into an effort to reclassify PFDs so that people could better understand the level of protection provided by a PFD and what environments the PFD was designed to perform in. The classification of PFDs became more complicated with the introduction of USCG approved inflatable PFDs.

(4) The USCG (supported by the PFD industry in recent years) has been spearheading the fourth course of activity through the development of risk-based tools in the Risk Based Compliance (RBC) Model for PFDs. This model is designed to evaluate the level of risk associated with different performance criteria in different environments. It can be applied at two different levels. At a high level it can be used to determine which performance criteria are the most critical in the performance of a PFD (see Item 7 below). This information can be used to support the reclassification effort. At a lower level this model can be used to evaluate the performance of an individual special purpose PFD and used to evaluate non-traditional designs that historically required an exceptional consideration and sometimes additional testing. In the future this information may also be used as the basis for a new path to PFD approval.

(5) In the Fall of 2007 the UL Standards Technical Panel (STP) for PFDs launched an initiative to consolidate four different wearable PFD standards into one. The goal was to eliminate redundancies and differences. Development of a consolidated standard allows us the opportunity to focus on more cost effective ways to assure the safety of approved products.

(6) PFDMA has renewed ongoing discussion with UL about managing the escalating costs to run approval tests and build approved USCG and TC PFDs. These costs increase not only because UL increases their prices, but also because we as industry have supported continued additions to an already complex set of standards. Development of a consolidated standard allows us the opportunity to focus on more cost effective ways to assure the safety of approved products.

(7) Also, with the advent of wave tank testing, researchers have gained new insight into the performance of PFDs. Testing has led to the development of new performance criteria such as heave (a measure of how much a person and PFD will bob in waves), a new understanding of the importance (or not) of existing criteria such as freeboard, head angle and body angle. With the aid of the RBC model, the prioritization of critical performance criteria has been identified, and the basis for an index such as a Drowning Prevention Index (DPI) has been developed.

Project Goal(s): The project goals as articulated in 2006 at the annual PFDMA Conference in a presentation entitled "PFD Reclassification Initiative" are as follows:

- Re-Baseline Performance Criteria.
- Re-Classify Product Types.
- Re-Align International Standards.
- Provide for more Design Innovation.

Origin: The 2006 presentation noted that we've had 30 – 40 years worth of standards and regulations building, responding to changing needs and technology development. The result of these well-intended efforts has been:

- Proliferation of Standards.
- Dilution of Type Differentiation.
- Complexity (& Cost) of Approvals.
- Confusion of Boating Public.
- Hindrances to Design Innovation.

Completion of the risk-based tools was seen as a key element in accomplishing the goals articulated in 2006. Since the Coast Guard was not willing to fund the effort without industry support the industry was polled and a dedicated UL label service fee surcharge (LSFS) was established starting in October 2006 to support and perhaps accelerate the completion of the reclassification project. It was agreed between the PFDMA board, the USCG, and UL that the allocation of the funds from the LSFS would be controlled by a steering committee composed of three PFD industry members, a representative from the UL, USCG approval program, and USCG Office of Boating Safety, and Dr. Ayyub, the principal investigator.

The steering committee met in the fall of 2006 at Underwriters Laboratories in Research Triangle Park, NC office and proposed to initiate a single consolidated NAM standard effort. The STP Chair formed the committee shortly thereafter.

The 2006 presentation at PFDMA noted, "IT'S A BIG JOB!"

Present Structure: The structure for completing the Consolidated Standard effort to date has been as follows:

- ♦ Steering Committee – Per the 2006 documents originating the UL LSFS, the reclassification project is governed by a steering committee to review and approve tasks and future directions, oversee implementation, and review progress. The program management is accountable to the steering committee with reporting requirements on quarterly basis. The steering committee is composed of:
 - Three manufacturers' representatives

- One representative from the Underwriters Laboratories, Inc.
- One representative from the U. S. Coast Guard, Lifesaving & Fire Safety Standards Division
- One representative from the boating safety grants of the U. S. Coast Guard, Office of Boating Safety
- The principal investigator from BMA Engineering, Inc.
- (A Canadian TC representative was added in 2007 with the anticipation of funding from Canada.)

The steering committee was charged with selecting its chair, and defining the order and procedures for conducting its business.

(Members: Dr. Bilal Ayyub (BMA), Phil Cappel (USCG), Mike Cunningham (UL), Jack Davis (TLPC), Marty Jackson (USCG), Jean-Francois Joly (TC), Ralph Steger (Coleman), and Sam Wehr (Chair, Mustang))

♦ STP Consolidated Standard Task Group –

(Members: Dr. Bilal Ayyub (BMA), Mike Cunningham (UL), Marty Jackson (USCG), Chris James (UL), Jean-Francois Joly (TC), Paul Potter (Cord), Robin Scott (Sport Dimension), Ralph Steger (Coleman), Larry Spears (Helly-Hansen, CA), Dorothy Takashina (TLPC), David Toshack (ULC), Wayne Walters (Kent), and Sam Wehr (Chair) (Mustang))

♦ STP Reclassification (Grading) of PFDs Task Group –

(Members: William Courtney, Mike Cunningham, Paul Donheffner, Ken Gulick, Chuck Hawley, Marty Jackson, Chris James, Jean-Francois Joly, Leon Larson, John Lucius, Bob Markle, Slim Ray, Tim Rogers, Ralph Steger, Sam Wehr (Chair), Steve Young)

♦ STP PFD Label TG (on hold)

♦ Heave Task Group

(Members: Mike Cunningham, Jack Davis, Marty Jackson, Chris James, Robin Scott, Ralph Steger, Sam Wehr (Chair))

♦ Placement Security Task Group:

(Members: Mike Cunningham, Jack Davis, Marty Jackson, Chris James, Tim Rogers, Ralph Steger (Chair), Dorothy Takashina, Sam Wehr)

♦ CMAC Life Saving Equipment Standards (LSES) Working Group – to provide a framework for formal Canadian input:

(Members: TBD April 2009)

Reports: These various working groups listed above have made a number of reports including the following:

Steering Committee – STP in March 2007 and PFDMA reports in 2007 and 2008.

STP Consolidated Standard Task Group – March 08 STP report.

STP Reclassification (Grading) of PFDs Task Group – STP & PFDMA reports each year since 2004.

Path Forward: As a result of the March 2008 STP discussions and the Task Group meeting at the PFDMA Conference in April 2008, the PFDMA Board of Directors surveyed the PFDMA membership on a recommended approach to completing the Consolidated Standard effort and on whether to request the

formation of an International Harmonization Committee (IHC). Three alternative approaches were laid out, and a recommendation was made to use the reclassification principles to decide what parts of the ISO PFD standards could be used with North American national deviations to formulate a single, consolidated standard.

As a result of the PFDMA survey and subsequent Board discussions the recommended approach was affirmed but it was decided that the formation of an IHC was premature. It was noted that we needed to do more work on identifying the ISO parts that lend themselves to harmonization before forming an IHC.

Work Plan: The STP Consolidated Standard Task Group has met by teleconference following the PFDMA board decisions and started formulating a work plan with milestones for completing the consolidated standard effort. The initial draft of that plan is attached and will be circulated for review and comment.

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Attachment: Consolidated North American Standard for wearable PFDs – Work Plan

Subject: Consolidated North American Standard for Wearable PFDs – Work Plan

Project Goal:

Develop a consolidated North American standard for wearable flotation aids and lifejackets based on the new principles developed in the reclassification project and select parts of the existing UL and CGSB standards, using the format and as much content as possible from ISO 12402 that both Canada and the U.S. (and potentially others) can accept without undue disruption of their approval processes.

Project Scope:

The North American standard should use the ISO standard consistent with the following:

- Implement the principles of the new knowledge gained in regards to critical performance criteria under the reclassification project, including an alternative for aggregate performance assessment;
- Hold national differences or deviations to the ISO standard to the minimum necessary to satisfy the lifesaving needs of North America (and potentially others);
- Bring the North American standards as close to the long-range goal of internationally agreed standards as possible.
- Be mindful of controlling the cost of retesting/certification associated with changing to the new standard.
- Along with capitalizing on the reclassification initiative, focus on the most cost effective ways to assure the safety of approved products.
- If necessary, the effort may initially address buoyancy/flotation aids (Type II & III PFDs) and followed by lifejackets (Type I PFDs).

Milestones:

1. Complete a final draft document for use in beginning the consolidated standard balloting by March 31, 2010
2. Publish consolidated standard and begin transitioning to certification under this standard by March 31, 2012*.

* Notes on scope and timeline – The timeline may change due to the evolving nature of the plan and the need to produce a quality standard. However, the milestones listed are believed to be achievable with a concerted effort by the task group, continued funding by the USCG and industry, and planned funding from TCMS/Canada, which should complement the effort.

Task Group:

Members: Dr. Bilal Ayyub (BMA), Mike Cunningham (UL), Marty Jackson (USCG), Chris James (UL), Jean-Francois Joly (TC), Paul Potter (Cord), Robin Scott (Sport Dimension), Larry Spears (Helly-Hansen, CA), Ralph Steger (Coleman), Dorothy Takashina (TLPC), David Toshack (ULC), Wayne Walters (Kent), and Sam Wehr (Mustang)

Information members**: (Australian representative(s)?)
(TBD - to be developed) . . .

** Guidelines for information members are to be developed, but basically these members are to receive documents and may attend meeting (or teleconferences) but should not offer comments directly, in order that the group need not regress. Comments and questions may be directed to members any time outside of meetings.

Reporting:

Post reports on website . . . (TBD)

Specific Steps: (continued next page)

Specific Steps:

#	Task:	Description:	Completion date:
1	Review all the PFDMA inputs	Summarize all the PFDMA inputs from their survey on formation of International Harmonization Committee (IHC), and formula consensus guidelines for the consolidation effort	Aug 15, 2008
2	Develop the goals	Develop the goals for the standard/project and form consensus for the scope	Aug 15, 2008
3	Complete draft plan	Formulate a complete draft plan for circulation to the interested stakeholders for comment. (The planned schedule should be forwarded to the PFDMA Board by the end of September.)	Aug 31, 2008
4	Identify the principles	Identify the principles for the requirements in the consolidated standard consistent with the reclassification and risk-based tools efforts; including aggregate performance provisions (Draft the principles for the existing UL standard by Sept 15; after which the new (e.g., heave period, placement security) and the Canadian standards parameters will be added. Larry agreed to be the point of contact for the Canadian portions working with David & Paul)	Oct 15, 2008
5	Obtain written input on project work plan	Obtain CGSB, TCMS, UL, ULC, and USCG written positions on the project scope, the importance for the standard effort, and anticipated participation in this effort (Completion date may be dependent on TCMS proposed statement of work completion.)	Dec 31, 2008
6	Rank proposed requirements	Rank the importance/value of the various proposed requirements using the risk-based tools (Completion date may depend on establishing measurement methods/techniques for parameters such as heave period, placement security, wearability, and detectability.) (Potential workshop for expert elicitation?)	Jan 31, 2009
7	Obtain stakeholder input on principles and ranking	Obtain stakeholder input on principles and ranking including STP, manufacturers, laboratories, regulatory bodies, CGSB, etc. written	Mar 31 09
8	Transition plan	Develop a reasonable transition plan based on the anticipated costs and equivalence of the level of safety between the old and new standards.	June 1, 2009
9	Identify acceptable ISO 12402 parts	Identify the parts of the ISO 12402 Standard, if any, that can be adopted with minimal national differences that parties to the standard can accept without undue disruption of their country's approval processes or draft new part (see step 13)	July 1, 2009
10	Submit ISO Comments	Submit comments to ISO addressing the potential deviations to ISO Parts to be adopted and others if feasible (after the upcoming March '09 ISO meeting in London)	~Fall 2009
11	Draft minimum deviations	Draft necessary deviations within the identified ISO parts, including any changes needed to incorporate the reclassification effort	Dec 31, 2009
12	Identify IHC Staff	Identify dedicated chairman and secretary from industry and go back to industry with IHC recommendation	Feb 15, 2010
13	Draft any new Part(s)	Draft any flotation aid or lifejacket Part or Parts where the ISO standard is not suitable for adoption (as outlined in PFDMA option B***)	Mar 31, 2010
--	(Milestone 1)	Complete a draft document for use in beginning the	Mar 31, 2010

		consolidated standard balloting	
14	Project costs & funding	Identify project costs, funding options, and initiate activity to get funding (develop as part of project plan)	Mar 31, 2010
15	IHC decision	Decision on request to form International Harmonization Committee(s) (IHCs) in the respective countries (CMAC in Canada?)	Mar 31, 2010
16	Balloting	Distribution and balloting of the proposed consolidated PFD standard. (The balloting should be initiated in April 2010. Additional intermediate steps TBD.)	Mar 31, 2012
17	Publish Std(s) (Milestone 2)	Publication of the adopted standards will required a lead time (including translation to French for Canada)	Mar 31, 2012
18	Lifejackets standards if needed	If lifejacket Part(s) can't be completed concurrent with floatation aid Parts, draft a plan to complete the more intricate standards needs for classifying Lifejackets, ISO 12402-2, -3, and -4	Concurrent with balloting on above effort

Reference material --

PFDMA Board recommendation (May 2008) --

- C. ISO harmonization – This harmonization approach would start with the principles we have identified in the reclassification project, identify which parts of the ISO standards can be made consistent with those principles, with minimal differences or deviations, to make them suitable for TC and USCG adoption. Those principles would also guide the development of the deviations necessary within those parts. While a manageable number of deviations to Parts 7 and 9 (components and test methods) are expected to allow them to provide adequate basis for the requirements within the product standards, some (or perhaps all) of the product standards themselves may require more changes than allowed by the harmonization guidelines. Where a product Part or Parts are not suitable for adoption, an alternate Part(s) might need to be drafted. This option to harmonize is not simply adopting the ISO 12402 with deviations to align with existing UL and CSGS standards.

APPENDIX – Discussion of Options --

***** OPTION B – CREATE A NORTH AMERICAN STANDARD TO REPLACE EXISTING UL AND CGSB STANDARDS** – This approach has been referred to as starting with a “clean sheet of paper.” It draws on the new research and high-level evaluation with the Risk Based Compliance (RBC) model to define the principles that will be the basis for the new standard. Based on these principles a working group would then draw from existing PFD standards (UL, CGSB and ISO) to build the new standard. The goals would be:

1. Focus on new principles
2. Evaluate based on Drowning Prevention Index (DPI)
3. Make the standard performance based. (The current standards are a combination of performance and design requirements. Design requirements are generally restrictive to innovation.)
4. Keep focus on requirements critical to lifesaving potential and wearability.
5. Format like ISO 12402. This will aid in a future transition to ISO.

Prior to the UL STP formation of a committee to develop a consolidated standard, Canada expressed interest in developing a consolidated UL and CGSB North American standard. Doing so would promote easier access to US and Canadian markets by requiring compliance with a single harmonized standard.

Except to the extent this option may be utilized under Option C, this option is not recommended because it would be an intermediate step to achieving the long-range goal of having internationally agreed standards. The STP Consolidation Task Group (TG) noted that if our long- range goal is an ISO standard, detouring for an intermediate US or North American standard seems an unnecessary and expensive diversion.

[\(Link to PFDMA-PFDRRA Models for PFDs 05-05-08 document\)](#)

RECOMMENDED OPTION

OPTION C – ISO HARMONIZATION - Parts of ISO 12402 will be adopted with national differences that both U.S. and Canada can accept. Transport Canada and U.S. Coast Guard want long-range movement toward ISO standards. Using this option will require us to establish an International Harmonization Committee (IHC) with a dedicated chairman and secretary from industry to facilitate the conversion. (Once established, this committee will maintain its responsibilities for the life of the standard). This harmonization process would identify those Parts of the ISO standards that are suitable for adoption and the deviations necessary within those Parts that are consistent with the reclassification and RBC efforts. The suitable Parts would be identified after determining the scope of the national differences/deviations necessary for North American use of those Parts without massive disruption of the Canadian or US approval processes. Where a Part or Parts are not suitable for adoption, an alternate Part might need to be drafted as outlined in option B. Along with identifying the differences needed for Parts 7 and 9 (components and test methods) of the ISO standard, initial steps would be to proceed with the reclassification effort to determine if the product approval Parts of ISO (such as Parts 5 & 6) can be adopted. Once completed, more intricate needs for classifying Lifejackets, ISO 12402-2, -3, and -4 would need to be undertaken. UL, USCG, ULC, and CGSB will cooperate in this effort. This option to harmonize is not simply adopting the ISO 12402 with differences to existing UL and CSGB standards, but an effort to implement the new knowledge gained in regards to critical performance criteria using as much of the testing and components Parts of ISO 12402 as possible.

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