



REASSESSMENT OF THE RESPONSE TO TSB RECOMMENDATION M92-07

Anti-exposure worksuits

Background

On 17 December 1990, the F.V. *Straits Pride II*, en route from the fishing grounds to St. John's, Newfoundland, capsized and sank in adverse weather. The Board determined that the combined effects of the weather, shipped seas, stowage of the catch, free surface effect of liquids, loss of the port paravane, and downflooding caused the vessel to capsize. The suddenness of the capsizing precluded efforts by three of the crew to successfully abandon the vessel. The other three crew members boarded the liferaft from the sea and were rescued.

The Board concluded its investigation and released report M90N5017 on 24 March 1993.

TSB Recommendation M92-07 (March 1993)

The Board noted the perennially high risk to Canadian fishermen of being in a survival situation in extremely hostile waters and recommended that

the Department of Transport expedite its revision of the Small Fishing Vessel Safety Regulations which will require the carriage of anti-exposure worksuits or survival suits by fishermen.

TSB Recommendation M92-07

Transport Canada's response to Recommendation M92-07 (June 1993)

The Minister of Transport recognizes the utility of the recommendation. In the proposed revised Small Fishing Vessel Regulations recently agreed to by the fishing industry and the Canadian Coast Guard, anti-exposure worksuits are provided for as alternative equipment. The Canadian Coast Guard will continue to actively promote the voluntary carriage of the worksuit.

TSB assessment of Transport Canada's response to Recommendation M92-07 (October 1993)

Over the past couple of years, the Canadian Coast Guard (CCG) has been in consultation with the fishing industry to amend the *Small Fishing Vessel Safety Regulations* to require vessels such as this to carry an anti-exposure worksuit or immersion suit for each member of the complement. In numerous occurrences, immersion/survival suits have been instrumental in saving the lives of fishermen and mariners. The CCG's attempts to make the carriage requirement mandatory so far has been unsuccessful, with opposition from some fishing interest groups who cite the cost and discomfort of wearing such suits.

The Department of Transport has advised that proposed revisions to the *Small Fishing Vessel Safety Regulations* now have been agreed to by the fishing industry and the Canadian Coast Guard, but anti-exposure worksuits are provided for as alternative equipment. The CCG will continue to actively promote the voluntary carriage of the worksuits. In a follow-up telephone query, the staff has learned from the CCG that the production of a video to promote the use of anti-exposure worksuits for the commercial fishing population is nearing completion. The video, which includes footage of commercial fishermen working in worksuits, is intended for the CCG's ship safety personnel to promote their usage by commercial fishermen. The CCG has also distributed 100 worksuits to member fishermen of the Canadian Marine Rescue Auxiliary (CMRA) for evaluation. It is hoped that this group of CMRA member fishermen will play an important role in shaping the safety attitudes of other fishermen, particularly towards the usage of anti-exposure worksuits.

However, given the record of failed attempts to bring about voluntary carriage of such suits, the response is considered **Satisfactory in Part**.

Transport Canada's response to Recommendation M92-07 (December 2004)

As part of the Canada Shipping Act Regulatory Reform process, a review of this regulation is being conducted. It should be noted that this is now referred to as the *Fishing Vessel Safety Regulations* and is scheduled to be completed by November 2006.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (December 2005)

An amendment to the *Small Fishing Vessel Inspection Regulations* to provide anti-exposure worksuits as an alternative to lifejackets did not receive approval. Transport Canada (TC) proposed in a discussion document on the new Fishing Vessel Safety Regulations (28 Jan 2005) that fishing vessels be required, based on voyage classes, to carry either an immersion or anti-exposure suit for each member of the complement. If fully implemented, the proposed action will substantially reduce the risks associated with operating in cold waters.

The reassessment of the response is considered **Satisfactory Intent**.

Transport Canada's response to Recommendation M92-07 (November 2006)

TC's update, dated November 2006, indicated that the new proposed Fishing Vessel Safety Regulations will require small fishing vessels to carry immersion suits or thermal protection lifejackets. The regulations are expected to be finalized in 2008. Upon publication of the new standards for lifejackets, TC will encourage the use of lifejackets offering thermal protection.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (November 2006)

The proposed requirement to carry immersion suits or thermal protection lifejackets, if fully implemented, will substantially reduce the risks associated with operating in cold waters.

Therefore, the assessment remains **Satisfactory Intent**.

Transport Canada's response to Recommendation M92-07 (June 2008)

TC's update, dated June 2008, indicated that the proposed Fishing Vessel Safety Regulations will require small fishing vessels to carry immersion suits or thermal protection life jackets. Work is ongoing with respect to the carriage of life saving equipment in the proposed new Fishing Vessel Safety Regulations. A new CGSB standard for lifejackets, which includes thermal protection lifejackets, is in place. Transport Canada encourages the use of lifejackets offering thermal protection. (Follow-up information indicated that pre-publication of the proposed regulations in the *Canada Gazette*, Part I is expected in fall/winter of 2009/2010.)

TSB reassessment of Transport Canada's response to Recommendation M92-07 (September 2008)

The proposed requirement to carry immersion suits or thermal protection lifejackets, if fully implemented, will substantially reduce the risks associated with operating in cold waters.

Therefore, the assessment of the response remains **Satisfactory Intent**.

Transport Canada's response to Recommendation M92-07 (March 2010)

TC's update, dated March 2010, indicated that the proposed Fishing Vessel Safety Regulations would require small fishing vessels to carry immersion suits or thermal protection life jackets.

The proposed Fishing Vessel Safety Regulations are anticipated to be pre-published in Part I of the *Canada Gazette* in the 4th quarter of 2011.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (March 2010)

The proposed requirement to carry immersion suits or thermal protection lifejackets, if fully implemented, will substantially reduce the risks associated with operating in cold waters.

Therefore, the assessment of the response remains **Satisfactory Intent**.

Transport Canada's response to Recommendation M92-07 (December 2010)

TC's update of December 2010 indicates that the proposed Fishing Vessel Safety Regulations would require small fishing vessels to carry immersion suits or thermal protection life jackets. The proposed new Fishing Vessel Safety Regulations are anticipated to be pre-published in the *Canada Gazette*, Part I in the 2nd quarter of 2012.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (March 2011)

The proposed new Fishing Vessel Safety Regulations include carriage requirements for immersion suits or thermal protection life jackets for fishermen. The proposed requirement to carry immersion suits or thermal protection lifejackets, if fully implemented, will substantially reduce the risks associated with operating in cold waters. However, the protracted delay in implementing these requirements continues to place lives at risk.

Therefore, the assessment of the response remains **Satisfactory Intent**.

Transport Canada's response to Recommendation M92-07 (December 2011)

TC's update from December 2011 indicates that the proposed Fishing Vessel Safety Regulations will require small fishing vessels to carry immersion suits or thermal protective life jackets. The proposed regulations will require that:

- Every fishing vessel engaged on a voyage beyond the limits of a near coastal voyage, class 2, shall carry on board one immersion suit of appropriate size for each person on board
- If the water temperature is less than 15° C, every fishing vessel 12 m or more LOA engaged on a near coastal voyage, class 2 or a sheltered waters voyage shall carry on board one immersion suit or anti-exposure work suit of appropriate size for each person on board
- If the water temperature is less than 15° C, every fishing vessel less than 12 m LOA engaged on a near coastal voyage class 2 or a sheltered waters voyage shall
 - carry on board one immersion suit or anti-exposure work suit of appropriate size for each person on board, or
 - the owner and operator shall ensure that equipment is carried and procedures are established that will protect all persons on board from the effects of hypothermia or cold shock resulting from swamping, capsizing or falling overboard.

The proposed new Fishing Vessel Safety Regulations are anticipated to be published in the *Canada Gazette*, Part II in the 2nd quarter of 2013.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (March 2012)

The proposed requirement to carry immersion suits or thermal protection lifejackets, when fully implemented, will reduce the risks associated with cold water immersion. The continued delays with the TC regulatory amendments continue to place fishermen, their vessels and the environment at risk.

Therefore, the assessment of the response remains **Satisfactory Intent**.

Transport Canada's response to Recommendation M92-07 (November 2012)

TC's update from November 2012 indicates that it has made its proposed Fishing Vessel Safety Regulations a priority.

The proposed Fishing Vessel Safety Regulations will require:

- small fishing vessels to carry immersion suits or thermal protection life jackets on voyages beyond Near Coastal, Class 2 voyages (25 miles); and
- wearing of flotation devices (lifejackets or personal flotation devices [PFDs]) while working on deck when there is a risk of falling overboard.

The date of pre-publication in the *Canada Gazette*, Part I for the proposed Fishing Vessel Safety Regulations is targeted for the 1st quarter of 2014; however, that is dependent upon factors beyond Transport Canada's control. Drafting instructions are complete and drafting has begun, but is primarily dependent upon the availability of Regulatory Unit lawyers.

In the interim, in November 2011, Transport Canada issued Ship Safety Bulletin (SSB) 02/2011 “Wearing and Using Flotation Devices – Small non-pleasure Craft & Small Commercial Vessels” advising that certain devices offering thermal protection will be accepted in lieu of lifejackets on fishing vessels less than 15 metres in length under certain conditions. Subsequently TC issued SSB 06/2012 to replace SSB 02/2011, which included new information on acceptance of waist-length bomber-style PFDs that are designed to provide thermal protection.

Other actions that have been taken to improve safety since this recommendation was made include:

- introduction of mandatory Marine Emergency Duties training for minimum complement of the vessel;
- establishment of the Standing Committee on Fishing Vessel Safety with an industry co-chair as part of the Canadian Marine Advisory Council;
- extensive consultation with industry representatives to raise awareness of options and develop regulatory requirements;
- requirements by certain health and safety jurisdictions, e.g., WorkSafeBC, to carry survival suits;
- Ship safety bulletins 04/2006 “Safety of Small Fishing Vessels: Information to Owners/Masters about Stability Booklets”, and 01/2008 “Fishing Vessel Safety: Record of Modifications”, as well as the Small Fishing Vessel Safety Manual were distributed to raise awareness of factors contributing to capsizing, the initial cause of this incident.

TSB reassessment of Transport Canada’s response to Recommendation M92-07 (March 2013)

Once fully implemented, the proposed Fishing Vessel Safety Regulations requirement to carry immersion suits or thermal protective lifejackets will reduce the risks associated with cold water immersion for fishermen. The regulations are now expected to be pre-published in the *Canada Gazette*, Part I in the 1st quarter of 2014 – 21 years after the original recommendation to expedite their publication was made.

The repeated delays of the TC regulatory amendments continue to place fishermen, their vessels and the environment at risk. Since 2004, when TC announced that the regulations would be pre-published in 2006, delays have been announced every year. TC interim measures (including SSB’s) are meant to fill the safety deficiency gap until the regulations are published; however, in the case of this recommendation, there has been no interim measure proposed. SSB 06/2012 applies only to vessels under 15 tonnes and the wearing of thermal protective devices is not mandated. Due to the failure to expedite fishing vessel regulations, as recommended in 1992, fishermen have been exposed to increased risk for over 20 years.

It is expected that once the Fishing Vessel Safety Regulations are finally implemented, this recommendation will become Fully Satisfactory.

The assessment of this response remains **Satisfactory Intent**.

Transport Canada's response to Recommendation M92-07 (November 2013)

Transport Canada has made its proposed Fishing Vessel Safety Regulations a priority. Transport Canada is adopting a Phased approach to the publication of the proposed regulations:

Phase 1 will involve amending current *Small Fishing Vessel Inspection Regulations* to include the provisions of Part 1 of the proposed Fishing Vessel Safety Regulations. Phase 1 includes the proposed requirements for lifesaving equipment, safe operation, stability and general construction and maintenance. Completion of phase 1 should achieve the close out of this recommendation.

Phase 2 will involve repealing what is left of the *Small Fishing Vessel Inspection Regulations* and replacing them with what is currently Parts 2, 3, 4 of the proposed Fishing Vessel Safety Regulations. Phase 2 will bring the proposed construction requirements into force.

Phase 1 of the proposed Fishing Vessel Safety Regulations will require:

- small fishing vessels to carry immersion suits or thermal protection life jackets on voyages beyond Near Coastal, Class 2 voyages (25 miles); and
- wearing of flotation devices (lifejackets or PFDs) while working on deck when there is a risk of falling overboard.

Drafting of Phase 1 of the proposed regulations is targeted to be complete by March 2014. The date of pre-publication in the *Canada Gazette*, Part I is targeted for 2nd quarter of 2014, however that date is dependent upon factors beyond Transport Canada's control. Drafting instructions are complete and drafting has begun, but is primarily dependent upon the availability of Regulatory Unit lawyers.

In the interim, Transport Canada issued Ship Safety Bulletin 02/2011 – Wearing and Using Flotation Devices – Small Commercial Vessels and Small Fishing Vessels in November 2011 advising that certain devices offering thermal protection will be accepted in lieu of lifejackets on fishing vessels less than 15 metres in length under certain conditions. Subsequently TC issued SSB 06/2012 to replace SSB 02/2011, with new information to include among other items, acceptance of waist length bomber style PFDs that are designed to provide thermal protection.

Other actions that have been taken to improve safety since this recommendation was made include:

- introduction of mandatory Marine Emergency Duties training for minimum complement of the vessel;
- establishment of the Standing Committee on Fishing Vessel safety with an industry co-chair as part of the Canadian Marine Advisory Council;
- extensive consultation with industry representatives to raise awareness of options and develop regulatory requirements;
- requirements by certain health and safety jurisdictions, e.g. WorkSafeBC, to carry survival suits;

Ship Safety Bulletins 04/2006 Safety of Small Fishing Vessels: Information to Owners/Masters about Stability Booklets and 01/2008 Fishing Vessel Safety: Record of Modifications, as well as the Small Fishing Vessel Safety Manual were distributed to raise awareness of factors contributing to capsizing, the initial cause of this incident.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (March 2014)

The TSB issued the recommendation to expedite the revision of the *Small Fishing Vessel Safety Regulations* over 20 years ago. TC's response from November 2013 contains no new substantive information or rationale for the protracted delay in promulgating the new regulations. Since 2004, when TC announced that the new Fishing Vessel Safety Regulations would be pre-published in 2006, delays have been announced every year. TC interim measures (including SSB's) are meant to fill the safety deficiency gap until the regulations are published; however, in the case of this recommendation, there has been no interim measure proposed. SSB 06/2012 applies only to vessels under 15 tonnes and the wearing of thermal protective devices is not mandated. The new proposed date for pre-publication of the Fishing Vessel Safety Regulations is targeted for the 2nd quarter of 2014. The proposed requirement to carry immersion suits or thermal protection lifejackets, when fully implemented, will reduce the risks associated with cold water immersion.

The assessment of the response remains **Satisfactory Intent**.

Transport Canada's response to Recommendation M92-07 (December 2014)

Transport Canada's response indicated that it has adopted a phased approach to publishing the proposed new Fishing Vessels Safety Regulations.

Phase 1 will involve amending the current *Small Fishing Vessel Inspection Regulations* to include the provisions of Part 1 of the proposed Fishing Vessel Safety Regulations. Phase 1 will establish requirements for vessel stability, safety equipment, and safe operating procedures. It will include the requirements that small fishing vessels carry immersion suits on Near Coastal, Class 1, and unlimited voyages. Fishing vessels on Near Coastal, Class 2, sheltered waters, or Near Coastal, Class 2 - restricted to two nautical miles will be required to carry an immersion suit or an anti-exposure worksuit if the water they operate in is less than 15 degrees Celsius. As an alternative to this requirement, fishing vessels on sheltered waters or Near Coastal, Class 2 restricted to two nautical miles voyages may carry on board appliances and/or written procedures to protect all persons on board from the effects of hypothermia or cold shock resulting from capsizing or falling overboard. As the regulations are performance-based, stricter requirements are required when vessels are engaged in voyages further from shore to mitigate the risks associated with these types of voyages.

Furthermore these requirements will be supported by preventive measures such as the wearing of flotation devices (lifejackets or PFDs) while working on deck when there is a risk of falling overboard. For example, the master will require persons on board to wear flotation devices if they are on board a fishing vessel that has no deck or no deck structure. Factors that contribute to the risk of falling overboard include, but are not limited to, environmental conditions or circumstances that could jeopardize the safety of persons on board. Please note that the completion of Phase 1 is anticipated to achieve the close out of this recommendation.

Drafting of Phase 1 of the proposed regulations is close to completion. The date of pre-publication in the *Canada Gazette*, Part I is targeted for the 1st quarter of

2015, however that date is dependent upon factors beyond Transport Canada’s control.

Phase 2, which will be developed after the completion of Phase 1, will involve repealing what is left of the *Small Fishing Vessel Inspection Regulations* and replacing them with what is currently Parts 2, 3, 4 of the proposed Fishing Vessel Safety Regulations. Phase 2 will bring the proposed construction requirements into force.

Transport Canada’s response also contained the list of actions taken to improve safety that was previously included in its response of March 2013.

TSB reassessment of Transport Canada’s response to Recommendation M92-07 (March 2015)

TC’s 2014 response contains little new substantive information. The following table was sent in response to recommendation M00-09 in December 2014:

Item	Column 1 Voyage	Column 2 Hull Length	Column 3 Other Safety Equipment
1.	Unlimited	Any length	(a) two or more SOLAS life rafts or reduced capacity life rafts of sufficient total capacity to carry, on each side of the vessel, the number of persons on board; (b) one recovery boat; and (c) an immersion suit of an appropriate size for each person on board.
2.	Near Coastal Class 1	Any length	(a) one or more SOLAS-type life rafts of sufficient aggregate capacity to accommodate the total number of persons on board; (b) an immersion suit of an appropriate size for each person on board.
3.	Near Coastal Class 2	More than 12m	(a) one or more life rafts or a combination of life rafts and recovery boats with a total capacity that is sufficient to carry the number of the persons on board; (b) an emergency position-indicating radio beacon (EPIRB), unless the vessel is already carrying an EPIRB required by the <i>Ship Station (Radio) Regulations, 1999</i> ; and (c) if the water temperature is less than 15° C, an immersion suit or an anti-exposure work suit of appropriate size for each person on board.
4.	Near Coastal Class 2 limited 5 miles	Not more than 12m	(a) one or more life rafts or a combination of life rafts and recovery boats with a total capacity that is sufficient to carry the number of the persons on board; or (b) both of the following: (i) an EPIRB or a means of two-way communications, unless the vessel is already carrying an EPIRB required by the <i>Ship Station (Radio) Regulations, 1999</i> ; and

			(ii) if the water temperature is less than 15° C, an immersion suit or an anti-exposure work suit of appropriate size for each person on board.
5.	Sheltered waters or Near Coastal Class 2 limited 2 miles	Any length	(a) one or more life rafts or recovery boats with a total capacity that is sufficient to carry the number of the persons on board; or (b) both of the following: (i) an EPIRB or a means of two-way communications, unless the vessel is already carrying an EPIRB required by the <i>Ship Station (Radio) Regulations, 1999</i> ; and (ii) if the water temperature is less than 15° C, an immersion suit or an anti-exposure work suit of an appropriate size for each person on board.

This table indicates that vessels under 12 metres on Near Coastal Class 2 voyages may carry “one or more life rafts or recovery boats with a total capacity that is sufficient to carry the number of the persons on board” as an alternative to carrying anti-exposure suits. In this case, crews on vessels under 12 metres, which comprise a significant portion of the Canadian fishing vessel fleet, will not be protected from the effects of hypothermia if this alternative requirement is chosen.

The TSB made Recommendation M92-07 to expedite the revision to the *Small Fishing Vessel Safety Regulations* over 22 years ago. In 2008, TC indicated that pre-publication of the proposed regulations was expected in the fall/winter of 2009–10. This date has been continually postponed since then.

Therefore the assessment rating has been changed to **Unsatisfactory**.

Transport Canada’s response to Recommendation M92-07 (May 2016)

Transport Canada’s response provided further clarification of the carriage requirements for vessels of certain lengths and on certain voyages, and indicated the following:

Phase 1 will involve amending current Small Fishing Vessel Inspection Regulations to include the provisions of Part 1 of the proposed Fishing Vessel Safety Regulations. Phase 1 will establish requirements for vessel stability, safety equipment, and safe operating procedures. It will include the requirements that small fishing vessels of all sizes carry immersion suits on near coastal, Class 1, and unlimited voyages. Small fishing vessels more than 12 metres on near coastal, Class 2 voyages will also be required to carry immersion suits or anti-exposure work suits (if the water temperature is less than 15 degrees Celsius). Note that all of the above will also be required to carry life rafts or recovery boats that can carry all persons on board, as the case may be. Small fishing vessels that are less than 12 metres on near coastal, Class 2 voyages and small fishing vessels of all sizes on sheltered waters, or near coastal, Class 2 - restricted to two nautical miles voyages will be required to carry an immersion suit or an anti-exposure work suit if the water they operate in is less than 15 degrees Celsius, or have the option to carry one or more life rafts or recovery boats that can carry all persons on board. Finally, as an alternative to this requirement, fishing vessels on sheltered waters voyage may carry on board appliances and/or written procedures to protect all persons on board from the effects of hypothermia or

cold shock resulting from capsizing or falling overboard. As the regulations are performance-based, stricter requirements are required when vessels are engaged in voyages further from shore to mitigate the risks associated with these types of voyages. Furthermore these requirements will be supported by preventive measures such as the wearing of flotation devices (lifejackets or PFDs) while working on deck when there is a risk of falling overboard. For example, the master will require persons on board to wear flotation devices if they are on board a fishing vessel that has no deck or no deck structure. Factors that contribute to the risk of falling overboard include, but are not limited to, environmental conditions or circumstances that could jeopardize the safety of persons on board. Please note that the completion of Phase 1 is anticipated to achieve the close out of this recommendation. Transport Canada has completed the technical work on the Phase 1 of the proposed regulations. The regulatory package is going through the review and approval process and there is no update with regards to timelines for publication in [Canada Gazette, Part 1]. The timing of the publication is now up to factors beyond TC's control. In the interim, Transport Canada issued Ship Safety Bulletin 02/2011-Wearing and Using Flotation Devices-Small Commercial Vessels and Small Fishing Vessels in November 2011 advising that certain devices offering thermal protection will be accepted in lieu of lifejackets on fishing vessels less than 15 metres in length under certain conditions. Subsequently, TC issued SSB 06/2012 to replace SSB 02/2011, with new information to include among other items, acceptance of waist length bomber style PFDs that are designed to provide thermal protection. Other action that have been taken to improve safety since this recommendation was made include:

- introduction of mandatory Marine Emergency Duties training for minimum complement of the vessel;
- establishment of the standing Committee on Fishing Vessel Safety with an industry co-chair as part of the Canadian Marine Advisory Council;
- extensive consultation with industry representatives to raise awareness of options and develop regulatory requirements;
- requirements by certain health and safety jurisdictions, e.g. WorkSafeBC, to carry survival suits; and
- Ship Safety Bulletins 04/2006 Safety of Small Fishing Vessels: Information to Owners/Masters about Stability Booklets and 01/2008 Fishing Vessel Safety: Record of Modifications, as well as the Small Fishing Vessel Safety Manual were distributed to raise awareness of factors contributing to capsize, the initial cause of the incident.

Phase 1 was published in the *Canada Gazette*, Part I on 06 February 2016.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (June 2016)

A review of the proposed amendments to the Small Fishing Vessels Inspection Regulations published in the *Canada Gazette*, Part I on 06 February 2016 indicated that a small fishing vessel:

- of any length on an unlimited voyage (i.e. within 200 nautical miles from shore) or a near coastal voyage, Class 1 (i.e. within 100 miles from shore) must carry, in addition to carrying life rafts, immersion suits for each person on board;
- more than 12 metres in length on a near coastal voyage, Class 2 (i.e. within 25 nautical miles from shore) must carry, in addition to carrying liferafts, immersion suits or anti-exposure work suits for each person on board if the water temperature is less than 15°C;
- not more than 12 metres in length on a near coastal voyage, Class 2 (i.e. within 25 nautical miles from shore) must carry either liferafts or a combination of liferafts and recovery boats, or immersion suits or anti-exposure work suits for each person on board if the water temperature is less than 15°C;
- of any length on a sheltered waters voyage or near coastal voyage, Class 2 but restricted to within 2 nautical miles from shore must carry either liferafts or recovery boats, or immersion suits or anti-exposure work suits for each person on board if the water temperature is less than 15°C;

The proposed amendments also indicated that instead of carrying an immersion suit or anti-exposure work suit if the water temperature is less than 15°C, a small fishing vessel of any length on a sheltered waters voyage may carry written procedures for protecting persons from the effects of hypothermia or cold water shock resulting from swamping, capsizing or falling overboard.

A review of the monthly mean sea surface temperatures on Canada's east and west coasts indicated that water temperatures may exceed 15°C for only 2 months (August and September) of the year. Taking into account the vast majority of small fishing vessels that are engaged in commercial fishing seasons during the other months, it is likely that small fishing vessels more than 12 metres in length operating beyond a sheltered waters voyage or beyond 2 nautical miles from shore on a near coastal voyage, Class 2, would have to carry immersion suits or anti-exposure work suits on board the vessel to comply with the proposed regulatory amendments.

Small fishing vessels not more than 12 metres in length represent about 70% of all fishing vessels registered in Canada, and many of them operate closer to shore. Under the proposed amendments, these vessels operating within 2 nautical miles from shore may carry either a recovery boat or written procedures for protecting persons from hypothermia or cold water shock. When operating up to 25 miles from shore, they may carry lift rafts or a combination of life rafts and recovery boats.

Given the nominal costs, it is likely the operators of these vessels would opt to implement these measures. Noting that the TSB's 2012 *Safety Issues Investigation into Fishing Safety in Canada* showed that 47% of all small fishing vessel fatalities occurred within 2 nautical miles from shore, and 79% within 25 nautical miles, having written procedures on board detailing what measures are to be taken to recover an overboard crew member may help to reduce the risk of hypothermia or cold shock. However, in the event that the entire crew end up in the water, it is unclear how the risks would be reduced if there are no available life-saving appliances. It is worth noting that on the west coast, British Columbia's *Occupational Health and Safety Regulation*

(section 24.97) requires every fishing vessel to carry, for each crew member, one immersion suit. There are no similar provincial requirements for small fishing vessels operating on Canada's east coast.

Given the proposed amendments are expected to reduce some of the risk associated with the recommendation, the assessment rating is changed to **Satisfactory in Part**.

Transport Canada's response to Recommendation M92-07 (December 2016)

TC considers the risks are reduced as follows:

Phase 1 of the regulatory amendments was published in the *Canada Gazette*, Part II on July 13, 2016 and will come into force one year after the publication date. As described, the carriage of anti-exposure worksuits or immersion suits by fishermen has been addressed in the new regulations.

In addition all small fishing vessels must carry safety equipment which includes lifejackets, lifebuoys, visual signals, liferafts, recovery boats, EPIRBS and 2 way means radio communication as the case may be.

Further, Phase 1 includes requirements that address and help prevent fishing vessels from sinking, swamping or capsizing. New requirements include adequate stability for existing vessels, written safety procedures and drills to ensure that the crew is at all times proficient in carrying out those procedures-all of which will reduce the risk of fishermen ending up in the water.

Moreover, the new requirements will be supported by preventive measures such as the wearing of flotation devices (lifejackets or PFDs) while working on deck when there is a risk of falling overboard. For example, the master will require persons on board to wear flotation devices if they are on board a fishing vessel that has no deck or no deck structure, thus mitigating the effects of cold-shock drowning.

Lifesaving appliances are required for all small fishing vessels based on the voyage and length of the vessel.

In its re-assessment, the TSB has not considered the significant reduction in overall risk in consideration of the relatively small number of fishing vessels operating exclusively on sheltered waters voyages (and hence not required to carry immersion suits or anti-exposure worksuits) nor has it provided the number of those vessels with fatalities. Furthermore, the TSB *Safety Issues Investigation into Fishing Safety in Canada* - while showing that 47% of all small fishing vessel fatalities occurred within 2 nautical miles from shore - does not show the number of those that were on voyages beyond 2 nautical miles (and hence would be required to carry immersion suits/ anti-exposure worksuits and an EPIRB or other means such as liferafts or recovery boats.)

Transport Canada has developed the Phase 1 regulatory amendments following extensive consultation with industry representatives and will continue to engage with the industry to raise awareness of regulatory requirements.

Further to the TSB's previous assessment, the trend is actually that fishers are proceeding further from shore, not closer. In addition, under the proposed amendments, vessels:

- of any length on a sheltered waters voyage or near coastal voyage, Class 2 but restricted to within 2 nautical miles from shore must carry either liferafts or recovery boats, or an EPIRB/means of two way radio communication and immersion suits or anti-exposure work suits for each person on board if the water temperature is less than 15°C;
- not more than 12 metres in length on a near coastal voyage, Class 2 (i.e. within 25 nautical miles from shore) must carry either liferafts or a combination of liferafts and recovery boats, or an EPIRB/means of two way radio communication and immersion suits or anti-exposure work suits for each person on board if the water temperature is less than 15°C.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (March 2017)

In its December 2016 response, TC stated that the *Fishing Vessel Safety Regulation* (FVSR) were now published and would come into force on 13 July 2017. The FVSR will increase the overall carriage requirements for immersion suits or anti-exposure suits on small fishing vessels.

Recommendation M92-07 targets all fishing vessels for carriage of immersion suits on all voyages. However, the FVSR allow for some alternatives to the carriage of immersion suits or anti-exposure suits for small fishing vessels that operate exclusively within

- sheltered waters or
- within 2 nm from shore in near coastal class 2 waters or
- within near coastal class 2 waters and are less than 12 m.

A relatively small number of fishing vessels operate exclusively on sheltered waters voyages or within 2 nm from shore. The TSB *Safety Issues Investigation* estimated that there were approximately 10, 000 active fishing vessels less than 12 m. It is unknown how many of these fishing vessels operate exclusively within 25 nm.

However, in B.C. there are approximately 1600 active fishing vessels less than 12 m, but these vessels are required by WorkSafeBC to carry immersion suits. In the Newfoundland region, on average there are 5600 fishing vessels registered that are less than 8.5 m. These vessels are likely to carry an immersion suit or anti-exposure suit, as they are not likely to physically accommodate the alternative which is a life raft or recovery boat with a total capacity that is sufficient to carry the number of persons on board.

The FVSR will require written safety procedures and drills to be conducted to ensure that the crew is at all times proficient in carrying out these procedures. The FVSR also require persons to wear a flotation device at all times on a vessel without a deck. These additional requirements should also reduce the risk identified in M92-07.

Once the proposed amendments come into force in July 2017, the TSB will evaluate the impact on the fishing fleet in Canada. While these enhanced carriage requirements are expected to reduce most of the risk posed by not having anti-exposure worksuits or survival suits available to all fishermen, they may not reduce the risks for all fishing vessels.

The reassessment of this response is therefore changed to **Satisfactory Intent**.

Transport Canada's response to Recommendation M92-07 (December 2017)

Now that the amendments have come into force, TC looks forward to the evaluation of the TSB.

TC suggests that the following should be taken into consideration as part of this evaluation:

- In addition to the increase in the overall carriage requirements for immersion suits or anti-exposure suits on small fishing vessels, the new FVSR also increase the overall carriage of life rafts and other safety equipment required by the new FVSR to the safety benefit of fishers.
- The relatively few number of fishing vessels fishing exclusively in sheltered waters and the fact that those waters are sheltered inherently reduces the risk to fishermen.
- The new FVSR establish requirements for vessel stability and require the development and conducting of drills of safety procedures thus inherently reducing the risk to fishermen.
- During the recent December 2017 National CMAC [Canadian Marine Advisory Council], industry demonstrated that it is taking a positive and pro-active approach regarding compliance with the new regulatory requirements. For example, fishing industry associations on the east and west coast have stated that they are; a. promoting written safety procedures; b. carrying out wharf safety visits; c. developing and providing safety pouches; d. purchasing liferafts; conducting man overboard drills, purchasing and providing PFD's, immersion suits and EPIRB's to fishermen; and encouraging the wearing of PFD's.

Given the reduction in risk afforded by the new FVSR and the response by industry, TC considers that this recommendation should be rated Fully Satisfactory.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (March 2018)

The investigation into the *Straits Pride II* occurrence in December 1990 identified a need to provide protection against hypothermia in extreme environments. Recommendation M92-07 called for TC to expedite the revision of the regulations to require the carriage of anti-exposure worksuits or survival suits on fishing vessels to mitigate this risk.

In July 2017, the *Fishing Vessel Safety Regulations* (FVSR) came into force and, based on exposure to risk, required fishing vessels greater than 12 m on any voyage to carry all of the following:

- a life raft or recovery boat sufficient to carry the number of persons on board, and
- an EPIRB, and
- if the water temperature is less than 15 degrees, immersion suits or anti-exposure worksuits of an appropriate size for each person on board.

For fishing vessels not more than 12 m in Near Coastal Class 2 waters, the FVSR allow alternatives to carrying an immersion suit or anti-exposure suit. Vessels that elect not to carry immersion suits or anti-exposure suits can, as an alternative, carry a life raft or recovery board sufficient to carry the number of persons on board. Although this alternative means fishermen do not necessarily enter the water, it may still leave them exposed to risk of hypothermia if they are in an extreme environment for a length of time.

However, the proposed new *Navigation Safety Regulations* will require additional carriage requirements for distress signalling devices. For fishing vessels less than 12 m operating in Near Coastal Class 2, the proposed regulations will require carriage of one of the following:

- a float-free EPIRB, or
- a manually-activated EPIRB, or
- a 406 MHz personal locator beacon (PLB), or
- a portable VHF-DSC/GPS radio.

If implemented, the *Navigation Safety Regulations* could substantially reduce the length of time that fishermen must wait for rescue in an emergency situation, thereby reducing the risk of hypothermia.

The FVSR and the proposed *Navigation Safety Regulations* are positive steps forward in improving safety in the fishing industry. If the regulations are complied with, the overall risk of accidents and associated risk of hypothermia will be reduced. The Board considers the response to the recommendation to be **Satisfactory in Part**.

Transport Canada's response to Recommendation M92-07 (January 2019)

Transport Canada (TC) agrees in principle with this recommendation. In 2018, the Department has focused on drafting the new *Navigation Safety Regulations*, which are expected to be published in the *Canada Gazette*, Part I, in spring 2019. These regulations should mitigate the residual risk for fishing vessels less than 12m.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (February 2019)

The *Fishing Vessel Safety Regulations* (FVSR) and the proposed new *Navigation Safety Regulations* are positive steps towards improving safety in the fishing industry.

The Board notes that the new *Navigation Safety Regulations* are still at the draft stage and are expected to be published in the *Canada Gazette*, Part I, in spring 2019. Once the proposed *Navigation Safety Regulations* are published and in force, these regulations, in conjunction with the FVSR, will reduce the safety deficiency identified in this recommendation.

The Board considers the response to the recommendation to be **Satisfactory in Part**.

Transport Canada's response to Recommendation M92-07 (January 2020)

Transport Canada agrees with this recommendation. In 2018/19, the Department focused on drafting the new *Navigation Safety Regulations*, which were published in the *Canada Gazette*, Part I, in June 2019, with a 90-day comment period. The proposed regulations are expected to be published in the *Canada Gazette*, Part II, in spring 2020.

TSB reassessment of Transport Canada's response to Recommendation M92-07 (March 2020)

The *Fishing Vessel Safety Regulations* (FVSR) and the proposed new *Navigation Safety Regulations* are positive steps towards improving safety in the fishing industry.

The new *Navigation Safety Regulations* published in the *Canada Gazette*, Part I, in spring 2019, are expected to be published in the *Canada Gazette*, Part II, in spring 2020. Once the proposed *Navigation Safety Regulations* are published, these regulations, in conjunction with the FVSR, will substantially mitigate the overall risk identified in this recommendation.

The Board considers the response to the recommendation to show **Satisfactory Intent**.

Next TSB action

The TSB will continue to monitor the progress of Transport Canada's proposed *Navigation Safety Regulations*.

This deficiency file is **Active**.