Transport Canada Transports Canada

TP 10936E
(09/2024)

BRIDGE WATCH RATING TRAINING COURSE

EDITION 2
SEPTEMBER 2024

Canada

Responsible authority	Approval
The Director, Seafarer Certification, Marine Safety and Security is responsible for this document, including any change, correction, or update.	Julia Murphy Director, Seafarer Certification Marine Safety & Security Transport Canada **Date signed:** _____

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REVISIONS

Last Review **August 2023**

Next Review **TBD**

Revision No.	Date of Issue	Affected Pages	Author(s)	Brief Description of Change
1	June 2009	All document	AMSPN	Whole revision of the document and QA format
2	July 20, 2022	All document	AMSPN	Update the Bridge Watch Rating Training Course content and course hours - STCW Convention Section A-II/4 and A-II/5 of the mandatory Code A.
3	August 5, 2022	All document	Plain Language – Web Services	Plain Language Review Complete
4	August 30, 2023	All Document	AMSPN	Whole revision of the document and QA format
5	February, 2024	All document	AMSPN	Dates changed, ISBN number and catalogue number issued.
6	July 2, 2024	11-12	AMSPN	Section 3.3 Course Plan, table, column "Methods for demonstrating competence" text was added, 2. An approved training on a steering simulator.

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SECTION 1

1. SCOPE AND APPLICATION

1.1 OVERVIEW

The *International Convention on Standards of Training, Certification and Watchkeeping for Seafarers*, (STCW Convention) as amended, contains training standards for Ratings Forming Part of a Navigational Watch in Section A-II/4 and Able Seafarer Deck in Section A-II/5 of the mandatory Code A.

The Bridge Watch Rating training program incorporates the training requirements of the Rating Forming Part of a Navigational Watch and also includes components of the Able Seafarer Deck.

The requirements regarding certification of the Bridge Watch Rating personnel employed on board vessels are set out in the *Marine Personnel Regulations*.

1.2 GOALS

(1) This course:

a. complies with the requirements set out in the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers and Canadian regulations.
b. meets the mandatory minimum requirements for training of Bridge Watch Rating personnel on board vessels.

(2) This course will also give seafarers:

a. the knowledge they need to carry out bridge watch duties;
b. the standards of safe working procedures; and
c. information on the hazards associated with the marine environment and their vessel.

1.3 AUTHORITY

(1) As Canada is party to the STCW Convention, Transport Canada Marine Safety is required under Regulation I/8 - *Quality Standards* to institute a Quality Management System in all training, assessment of competence, and issuance and revalidation activities with respect to the certification of marine personnel. Responsibilities within Marine Safety as they relate specifically to the functions of training and certification of seafarers in Canada, are laid out in the *Quality Management Manual* – *Marine Personnel Standards and Pilotage*, section QMS-INF-01, Organizational Chart and described in section 1.1 of that publication.

(2) The audit and approval of schools, personnel and marine training courses is defined in the standards of *Quality Management Manual – Marine Personnel Standards and Pilotage*, which is incorporated by reference in

(a) Paragraph 35(1)(d) of the *Canada Shipping Act, 2001*;

(b) Section 114 of the *Marine Personnel Regulations*; and

(c) TP 2293 The Examination and Certification of Seafarers.

1.4 EFFECTIVE DATE

This document comes into force September 1, 2024.

1.5 SUBJECT

The Bridge Watch Rating course is intended for new entry seafarers who intend to embark upon a marine career, where they form part of Bridge Watch and Deck team.

1.6 ENTRY REQUIRMENTS

(1) Participants must be 16 years of age to enroll in the Bridge Watch Rating Training course and must be 18 years of age on the day on which they receive their certificate of competency for a Bridge Watch Rating.

(2) Participants may complete the following Marine Emergency Duties before enrolment in the course or during the course as part of the BWR training course:

i. Proficiency in Survival Craft and Rescue Boats other than Fast Rescue Boats (PSC), and;
ii. STCW Basic Safety (STCW BS).

1.7 NUMBER OF PARTICIPANTS

There should be no more than 12 students per instructor for any practical demonstrations and there should be no more than 24 students per instructor for lectures and audio-visual presentations.

1.8 SPECIFIC INSTRUCTOR QUALIFICATIONS

The main course instructor must hold as a minimum:

- a Master, 150 Gross Tonnage, Domestic certificate;
- a Watchkeeping Mate; or
- a Watchkeeping Mate, Near Coastal certificate.

If the course is being led by more than one instructor, the assistant instructors must hold qualifications related to the marine industry or have related skills and be approved in accordance with the *Quality Management Manual* – *Marine Personnel Standards and Pilotage*.

1.9 EVALUATION

(1) A written examination, which is approved by Transport Canada Marine Safety. It contains 50 multiple–choice questions and the passing mark is 70%.

(2) A practical examination conducted by the Training Provider, which is approved by Transport Canada Marine Safety and the passing mark is 70%.

(3) These examinations will help to determine if the candidate meets the specifications of minimum standards of competence as outlined in STCW Convention Section A-II/4.

SECTION 2

2. APPROVAL OF TRAINING COURSES

2.1 GENERAL

As Canada has signed the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, Transport Canada is required to operate under a quality management system for all training, assessments of competence, issuing and revalidation of marine personnel certificates.

This international agreement requires the quality management system to include:

- course and program approval;
- instructor approval;
- training institution approval;
- documentation review; and
- audits of recognized institutions.

These requirements are in place to make sure that all approved courses and programs:

- are offered in premises that have appropriate facilities;
- are properly designed to cater to industry needs;
- are delivered by qualified personnel;
- fairly evaluate students; and
- improve and evolve with over time.

2.2 RECOGNIZED INSTITUTION

(1) A person must not promote or offer a training course or training program as an approved training course or approved training program unless the training institution is designated as a Recognized Institution.

(2) Courses are to be provided by a "recognized institution" as defined in the *Marine Personnel Regulations*. Approval procedures are provided in the chapter entitled *Approval of Marine Training Courses and Programs* of the *Quality Management Manual – Marine Personnel Standards and Pilotage,* published by the Department of Transport, Marine Personnel Standards and Pilotage Directorate:

(3) Institutions must submit for approval their course syllabus, training manual, instructor qualifications along with three (3) sets of fifty (50) multiple choice examination questions and any other information required by the above-mentioned document to the following address:

Seafarer Certification (AMSP)
Transport Canada, Marine Safety
330 Sparks Street, 8th floor
Place de Ville, Tower C
Ottawa, Ontario
K1A 0N8

SECTION 3

3. COURSE INFORMATION

3.1 DURATION

Duration of the Bridge Watch Rating training course is 300 hours.

3.2 COURSE OUTLINE

Knowledge required	Teaching time
1. Navigation at the support level, steer the ship and comply with helm orders in English language and contribute to a safe navigational watch	30 hours
2. Keep a proper look-out by sight and hearing	40 hours
3. Contribute to monitoring and controlling a safe watch and contribute to a safe navigational watch	20 hours
4. Operate emergency equipment and apply emergency procedures	5 hours
5. Operate Survival Craft and Rescue Boats	5 hours
6. Contribute to berthing, anchoring and other mooring operations	25 hours
7. Contribute to the handling of cargo and stores	35 hours
8. Contribute to the safe operation of deck equipment and machinery	65 hours
9. Apply occupational health and safety precautions and Apply precautions and contribute to the prevention of pollution of the marine environment	40 hours
10. Contribute to shipboard maintenance and repair	35 hours
Total	**300 hours**

3.3 COURSE PLAN

Specification of minimum standard of competence for ratings forming part of a navigational watch

Function: Navigation at the support level

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
1. Contribute to a safe navigational watch, steer the ship, understand and comply with helm orders in the English language	• Ability to understand Orders and to Communicate with the officer of the watch, Master, Bridge Team on matters relevant to watch keeping duties • Understand helm orders, why helm orders must be repeated and communicate to the Master, officer of the watch or Pilot • Magnetic and gyro compass parts and theory and use of magnetic and gyro compass. • gyro repeater, rate-of-turn indicator, Radar, electronic chart, Automatic Identify System (AIS), echo sounder, steering position, autopilot, GPS, VHF radio • Limitations of magnetic and gyro compasses in High latitude such as the Arctic. • Helm and steering pre departure checks before leaving dock • Basic understanding of types of propulsion and steering systems fitted on various types of vessels (pods, screw, twin screw, traditional rudder, Becker flap rudder, Kort nozzle). • Understand different steering systems “follow up” and “non follow up”, • Understanding and knowledge of Emergency steering procedure; • Knowledge of Application of Rudder, Rate of Turn. Effect of Rudder at various speeds “full away, reduced speed, dead slow and going astern”. • Basic understanding of steering in narrow channels, including the effects of squat, interaction between vessels meeting/overtaking and bank suction effects. • Basic understanding of steering at sea, • Basic understanding of steering in rivers, effects of tide current and other vessels	Assessment of evidence obtained from: 1. Practical test, or approved in-service experience or approved training ship experience including a number of hours at the wheel to the master’s satisfaction and justified by a steering testimonial attesting to the seafarer’s ability to steer and containing the declaration and at least the information set out in the approved Transport Canada steering testimonial; or 2. An approved training on a steering simulator	A steady course is steered within acceptable limits having regard to the area of navigation and prevailing sea state. Course alterations are smooth and controlled. Communications are closed loop communications. Communications are clear and concise and orders are acknowledged when received.

Specification of minimum standard of competence for ratings forming part of a navigational watch

Function: Navigation at the support level

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
1. Contribute to a safe navigational watch, steer the ship, understand and comply with helm orders in the English language continued.	• Basic understanding of steering when a vessel is fully loaded or in ballast and the application of rudder • Steering by compass and/or marks ashore for example; ranges • Procedures for change-over from automatic to manual steering and vice-versa • Necessity to check that automatic steering is holding course • Dangers of changing from hand to automatic and vice versa especially in close quarters situation and necessity of the officer in charge of the watch to supervise changes from hand to automatic and vice versa • Action to be taken if steering fails • Proper procedures when relieving the watch or being relieved at the wheel, stating course data and notify the officer of the watch of the change at the helm	Assessment of evidence obtained from: 1. Practical test, or approved in-service experience or approved training ship experience including a number of hours at the wheel to the master's satisfaction and justified by a steering testimonial attesting to the seafarer's ability to steer and containing the declaration and at least the information set out in the approved Transport Canada steering testimonial; or 2. An approved training on a steering simulator	A steady course is steered within acceptable limits having regard to the area of navigation and prevailing sea state. Course alterations are smooth and controlled. Communications are closed loop communications. Communications are clear and concise and orders are acknowledged when received.

Specification of minimum standard of competence for ratings forming part of a navigational watch

Function: Navigation at the support level (cont'd)

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Keep a proper look-out by sight and hearing	• Responsibilities of a look-out, including reporting the approximate bearing of a sound signal, light or other object in degrees or points • Recognize the appearance of lights, shapes and sound signals from other vessels and their meaning • Basic understanding of how the heading of the other vessel can be determined from lights exhibited • Basic understanding of the Collision Regulations (COLREG) as they pertain to lights, shapes, and sound signals • Basic understanding of the IALA aids to navigation system • Understand the directional significance of aids • Awareness of their reliability and limitations of aids • Ability to recognize distress signals by sight, sound, radio telephone and aircraft. • Importance of reporting distress signals on an immediate basis to the Master or officer in charge of the watch • Recognize hazardous situations threatening the safety of the ship crew and passengers • Understand the display information of a marine radar and know how to recognize an echo of an object and a or a dangerous echo • Understanding of the risk of Collision from a vessel approaching on a steady bearing • Procedures for the relief, maintenance, and handover of a watch at sea, at anchor and in port.	Assessment of evidence obtained from: 1. Practical test, or 2. Approved in-service experience or approved training ship experience	Sound signals, lights and other objects are promptly detected and their appropriate bearing in degrees or points is reported to the officer of the watch

Specification of minimum standard of competence for ratings forming part of a navigational watch

Function: Navigation at the support level (cont'd)

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Contribute to monitoring and controlling a safe watch	• Use of appropriate internal communication and alarm systems • Ability to understand orders and to communicate with the officer of the watch in matters relevant to watchkeeping duties • Knowledge of shipboard terms and the ability to communicate clearly with the officer of the watch using the proper shipboard terms relevant to watchkeeping duties • Information required to maintain a safe watch • Knowledge of the action to be taken in event of parted moorings. • Precautions when taking on or transferring fuel, water, or stores • Basic Environmental Protection procedures and what to do in an emergency for example, burst oil line or tank overflow. • Knowledge of procedures for the relief, maintenance, and handover of a watch.	Assessment from previous qualifying sea service obtained or approved training ship experience.	Communications are clear and concise. Advice/clarification is sought from the officer on watch where watch information or instructions are not clearly understood. Maintenance, handover, and relief of the watch is in conformity with accepted practices and procedures

Specification of minimum standard of competence for ratings forming part of a navigational watch

Function: Navigation at the support level (cont'd)

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Operate emergency equipment and apply emergency procedures	• Knowledge of emergency duties and alarm signals • Knowledge of Pyrotechnic Distress Signals, Satellite EPIRBs and SARTs • Maintenance of satellite EPIRBs and SARTs. • Avoidance of false distress alerts and action to be taken in event of accidental activation	Assessment of evidence obtained from approved in-service experience or approved training ship experience. or Completion of Approved MED training course.	Practical knowledge of the integrity of emergency and distress alerting systems to be maintained at all times

Operate Survival Craft and Rescue Boats	• Marine Emergency Duties (MED) training,
	  • Know the Vessel General Alarm and the Abandon Ship
	  • Know assigned duties on a Muster List
	  • Knowledge of the operation of Survival craft and rescue boats, there launching appliances and arrangements and there equipment on the vessel
	  • Knowledge of survival at sea techniques
		Assessment of Evidence obtained from approved training and experience as set out in section STCW A-V1/2, paragraphs 1 to 4 or
		
		Completion of Approved MED training course.
			Action in responding to ship and survival situations are appropriate to the prevailing circumstances and conditions and comply with accepted safety practices and standards.

Specification of minimum standard of competence for ratings forming part of a navigational watch

Function: Navigation at the support level (cont'd)

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Contribute to berthing, anchoring and other mooring operations	• Knowledge of the function of mooring and tug lines and how each line functions as part of an overall system • Knowledge of the Capacities, Safe Working loads (SWL) breaking strength of mooring equipment including mooring wires, synthetic and fiber lines, winches, anchor windlasses, capstans, bitts, chocks, and bollards. • Knowledge of Joining shackles and markings of anchor cable • Knowledge anchor equipment and anchoring operations • The procedures and order of events for the use of anchors in various operations • Ability to operate anchoring equipment under various conditions, such as anchoring, weighing anchor, securing for sea, and in emergencies • Knowledge of the signals required when a vessel is at anchor • Knowledge of each mooring system and related procedures/ order of events for making fast and letting go, including the function of mooring and tug lines, wires, towing lines and how each line functions as a part of an overall system. • Working knowledge of the procedures and order of events associated with mooring to a buoy or buoys	Assessment of evidence obtained from approved in-service experience or approved training ship experience	Demonstrate practical knowledge of berthing and mooring operations and participate in berthing, anchoring and mooring operations.
Contribute to the handling of cargo and stores	• Familiar with operations on the following vessels: Passenger Vessels, container, ro-ro, tankers, Bulk Carrier self-unloader, general cargo, Tugs, Oilfield Services Vessels, Special Purpose Vessels, Fishing Vessels • Knowledge of procedures for safe handling, stowage and securing of cargoes and stores, including dangerous, hazardous, and harmful substances and liquids • Basic knowledge of and precautions to observe in connection with particular types of cargo and identification of IMDG labelling	Assessment of evidence obtained from approved in-service experience or approved training ship experience.	Demonstrate practical knowledge and familiarity with the common types of vessels and cargo.

Specification of minimum standard of competence for ratings forming part of a navigational watch

Function: Navigation at the support level (cont'd)

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Contribute to the safe operation of deck equipment and machinery	• Identify the following shipboard terms and definitions and their functions: winches, windlass, capstans, derricks, cranes, blocks, freeing ports/scuppers, hatches, rudders, propellers, draft marks, load lines, bits, bulwarks, gangway/accommodation ladder, tween decks, fairleads, water-tight/weather-tight doors, bow, stern, accommodations, porthole, landing boom, valves, and pumps. • Identify and state the main characteristics of the following rope: Natural Fiber, Synthetic Fiber, modern high strength ropes and Wire Rope, safe working load and breaking strength. • Understand the creation and usage of the following: reef knot, bowline, bowline on a bight, rolling hitch, sheet bend, double sheet bend, clove hitch, whippings, seizings, overhand knot, figure 8, figure 8 on bight, sheep-shank, cow hitch, fisherman's knot, fisherman bend, timber hitch, alpine butterfly, round turn and two half hitches, barrel hitch, monkeys fist, stage hitch, heaving line knot, overhand knot on the bite, rope stoppers • Splicing: 3 strand (short, long, cut, eye, back), 8 strand (eye), & braided (eye) • Wire ropes, cables, and chains, including their construction, use, markings, maintenance, and proper stowage • Use of bulldog clips, shackles, slips. • Ability to use and understand basic signals for the operation of equipment including winches, windlass, cranes, and hoists. • Rig and unrig a bosun's chair and staging. • Rig and unrig pilot ladders, hoists, gangways, and ratguards. • Describe access arrangements including hatches, ramps, side/bow/stern doors. • Describe pipeline systems, bilge and ballast suctions and wells. • Internal sounding of holds, tanks, and bilges; • Knowledge of hoisting and dipping flags and the main single-flag signals. (A, B, G, H, O, P, Q, T, Z) • Ability to read draft markings	Assessment of evidence obtained from approved in-service experience or approved training ship experience.	

Specification of minimum standard of competence for ratings forming part of a navigational watch

Function: Navigation at the support level (cont'd)

Competence	Knowledge, understanding and proficiency	Methods for demonstrating competence	Criteria for evaluating competence
Apply occupational health and safety precautions and Apply precautions and contribute to the prevention of pollution of the marine environment	• Working knowledge of safe working practices and personal shipboard safety for the following: working aloft, working over the side, working in enclosed spaces, permit to work systems, line handling, lifting techniques and back safety, electrical safety, mechanical safety. • Personal Protective Equipment • Familiar with the following documents: Canadian Labour Code, Occupational Health and Safety Act, Safe Working Practice Regulations. • Knowledge of the precautions to be taken to prevent pollution of the marine environment • Knowledge of the use and operation of anti-pollution equipment • Knowledge of the approved methods for disposal of marine pollutants	Assessment of evidence obtained from approved in-service experience or approved training ship experience.	Demonstrate practical knowledge of safe working practices likely to be encountered on board ship. Practical knowledge and understanding how to follow safe working practices.
Contribute to shipboard maintenance and repair	• Ability to use painting, lubrication and cleaning materials and equipment • Ability to understand and execute routine maintenance and repair procedures • Knowledge of surface preparation techniques • Understanding manufacturer's safety guidelines and shipboard instructions • Knowledge of safe disposal of waste materials • Knowledge of the application, maintenance and use of hand and power tools	Assessment of evidence obtained from approved in-service experience or approved training ship experience.	Maintenance and repair activities are carried out in accordance with technical, safety and procedural specifications.

SECTION 4

4. EQUIPMENT CHECKLIST – BRIDGE WATCH RATING

4.1 FACILITIES

A minimum of 90 square meters for a seamanship room or workshop with provision to rig overhead stays, to hang ropes, wires, or nets to work on.

4.2 EQUIPMENT

The equipment and PPE must be sufficient to support a group of 12 students in the facility at any one time.

Tools Required for Workshop or Seamanship Room	
Tools	**Number Required**
Wooden fids	8
10" Marlin spikes	3
8" Marlin spikes	2
14" Marlin spikes	5
Safety glasses	12
Assorted steel thimbles	several
Pushers	7
1" Fids (nylon)	1
5/8 Fids (nylon)	2
3/8 Fids (nylon)	7

Tools Required for Workshop or Seamanship Room	
Tools	**Number Required**
3/8 Fids (nylon)	7
5/16" Fids (nylon)	4
7/8" Fids (nylon)	2
7/16" Fids (nylon)	2
3/4" Fids (nylon)	2
1/2" Fids (nylon)	1
Black felt markers	8
Assorted bulldog clips	several
Sailmakers palms	6
Cold chisels	6
Crescent wrenches	4
Punch	1
Hammer	1
Pipe wrenches	2
Sharpening steel	1
Wedge socket	1
Guillotine	1
Serving board	1

Tools Required for Workshop or Seamanship Room cont.	
Tools	**Number Required**
Serving mallet	1
Stage	1
Bosun's chairs	2
Old steel and wooden blocks	several
Turnbuckles	3
Kenter shackle	1
Rigging vice	1
Leadline lead and leadline	1
Assorted shackles	several
Load binders c/w chain	2
Deck buckets	2
Deck brushes c/w handles	2
Pliers	1 pr.
36" Bolt cutters	1 pr.
4 lb. Hammer	2
Workshop vices	8
Sounding rod	1
Sounding tape	1
Fid assemblies for braided rope splicing	8
3/8" Chain	20

Tools Required for Workshop or Seamanship Room cont.	
Tools	**Number Required**
2.5mm Polypropylene twine	8 spools
3/8" Chain	1 fathom
3/8" Double braided nylon rope	1 spool
1/2" 3-strand Polypropylene wire rope of various length, size, and type	1 spool

4.3 CONSUMABLES

- 3/8" Manila, 3-strand rope
- 3/8" 6 X 24 Galvanized wire rope, hemp core
- 3/8" Herzog double braid, nylon rope
- 3/8" Poly, 3-strand rope
- 3/4" Manila, 3-strand rope
- 1 1/4" Poly, plaited 8-strand rope
- Polyester sailmakers twine, 40 lb. Test
- Polyester sailmakers twine, 100 lb. Test
- PVC electrical tape
- Tarred marline
- 3/8" Galvanized thimbles
- 3/4" Galvanized thimbles
- Sharpening stones
- Beeswax

4.4 OTHER EQUIPMENT NEEDED

- Anchor winch (by way of local ship's visits or in-house)
- Steering gear
- Bridge for watchkeeping duties
- Pyrotechnic distress signals
- Satellite EPIRB's
- SART's
- Magnetic compass and sighting device
- Gyro-compass and pelorus/azimuth circle
- Protractors / divider / Parallel ruler / Navigation triangles
- COLREGS and associated training aids
- Marine hydrometer
- Sounding Tape
- Hand Led Line
- Schematic model of a product tanker, tanks and pump-room, showing piping and valves
- Photos and drawings to illustrate different ships

Note: In addition, training with portable and fixed VHF sets as well as intercom link on telephone systems.