

MARINE SAFETY AND SECURITY MANAGEMENT SYSTEM

TIER I – POLICY

RISK MANAGEMENT IN CASE OF LIMITED BRIDGE VISIBILITY

Effective Date	Date of Revision

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RISK MANAGEMENT IN CASE OF LIMITED BRIDGE VISIBILITY

1 Policy Objective

- 1.1 Provide guidance to Authorized Representatives (AR) on risk mitigations to be used during a Risk Assessment in case of the Navigation Bridge visibility obstructed by deck cargo onboard foreign vessels in Canadian waters.
- 1.2 To outline the Canadian administration perspective and expectations as a Port State authority to exemptions and equivalencies issued by Flag State administrations under SOLAS Chapter V Regulation 3.2 on the Navigation bridge visibility.
- 1.3 Establish a national consistent approach for Transport Canada (TC) Marine Safety and Security (MSS) and the pilotage authorities to review the risk assessment and the proposed mitigating measures developed by the AR.
- 1.4 Guide TC MSS and Pilotage Authorities when accepting individual ships exemptions to take into account the effect such exemptions and equivalents may have upon the safety of all other ships.

2 Policy Statement

- 2.1 By default, the AR should primarily seek compliance with the bridge visibility requirements but when it is not possible, Regional TC MSS and the relevant Pilotage Authority (PA) (the reviewers) shall be advised by the AR prior a voyage in the Canadian waters take place where a vessel does not comply with the Navigation bridge visibility requirements from SOLAS Chapter V regulation 22 to overview the process and agree on the timeline. The AR is to include deviation rationale for statistical purposes.
 - 2.1.1 AR shall provide as much notice as possible to avoid potential delays on the vessel transit.
- 2.2 The AR is to provide the following information specific to the intended voyage and vessel to the reviewer prior they initiate the review:

- 2.2.1 Vessel transit details (e.g., vessel identification and particulars, routes, destinations, date and time of intended voyage, etc.)
- 2.2.2 Vessel stowage plan including accurate information on visibility/blind sectors and distance as outlined in SOLAS Chapter V regulation 22.
- 2.2.3 Vessel Flag state Exemption Certificate(s) and associated survey report(s).
- 2.2.4 Risk assessment and mitigating measures of the intended transit in Canadian waters under limited navigation bridge visibility that takes into account the presence of navigational hazards, the anticipated marine traffic considering the type and size of vessel, the likelihood presence of marine life, the use of aids to navigation and the foreseen marine weather to be encountered (e.g. cold temperature, sea ice, precipitation, restricted visibility).
- 2.3 The mitigation measures provided by AR shall include as a minimum for any voyage in Canada, those listed in the Annex 1 including the associated performance expectations. Additional mitigation measures shall be considered to ensure an equivalent level of safety is reached from the applicable requirements.
- 2.4 Regional TC MSS upon consultation with relevant Pilotage authority(ies) will concur with the AR risk assessment and mitigating measures or seek additional considerations to the AR if necessary.
- 2.5 If the review outcomes from paragraph 2.4 results in additional mitigation measures other than those included in the exemption certificate, the regional TC MSS should advise the Navigation Safety and Radiocommunications Group at TC MSS HQ accordingly, who will in turn will share the outcomes to the vessel's flag State administration.

The national database shall be used by TC to record the information referred from 2.1 to 2.5. [LIMITED BRIDGE VISIBILITY DATABASE | BASE DE DONNÉES SUR LA VISIBILITÉ LIMITÉE À LA PASSERELLE - Project Home \(sharepoint.com\)](#)

3 Scope

- 3.1 This policy applies to all foreign vessels that plan transiting into the applicable Canadian Waters¹ while not meeting any of the applicable SOLAS Chapter V regulation 22 requirements.

¹ For this Directive, the Great Lakes Basin, i.e. the waters of the Great Lakes, their connecting and tributary waters and the waters of the St. Lawrence River to the lower exit of the St. Lambert Lock at Montreal in Quebec, is excluded from the scope due to the presence of combined navigational features such as lock systems, narrow channels and high traffic density.

4 Authority

- 4.1 This policy is authorized by the Marine Safety and Security Executive and is in accordance with the objectives of the CSA, 2001.

5 Responsibility/ further information

- 5.1 The Director General, Marine Safety and Security is accountable for the implementation of this policy.
- 5.2 Pacific, Laurentian and Atlantic Pilotage authorities shall review relevant case in collaboration with corresponding TC office.
- 5.3 The Executive Director, Navigation Safety and Environmental Programs is the functional authority for the development, implementation, maintenance, and continuous improvement of this policy.
- 5.4 The Regional Directors are responsible for the implementation and promotion of this policy in their respective regions.
- 5.5 Comments or queries related to this policy and its application should be addressed to:

Manager, Navigation Safety and Radiocommunications

330 Sparks Street Ottawa ON K1A 0N8

tc.navradio.tc@tc.gc.ca

6 Related Documents

- 6.1 IEC 60945:2002 Maritime navigation and radiocommunication equipment and systems - General requirements - Methods of testing and required test results
- 6.2 IEC 60092 Electrical installations in ships – Part 504: Automation, control and instrumentation
- 6.3 IEC 60529:1989+AMD1:1999+AMD2:2013 CSV Consolidated version Degrees of protection provided by enclosures (IP Code)
- 6.4 IACS UR E10 in accordance with IEC 60092-504:2016 Part 504
- 6.5 International Maritime Organization Resolution MSC.192(79) adoption of the revised performance standards for radar equipment

7 Background

- 7.1 The trade related to wind turbines has evolved and is expected to grow for the foreseeable future due to the worldwide drive for renewable energy. This trend is associated with increasing demand from AR to maximize for economical and carbon footprint efficiency. In some cases, carriage of wind turbine structures as a deck cargo obstructs Navigation Bridge visibility and prevent compliance with

SOLAS V Regulation 22 and Navigation Safety Regulations 2020 paragraph 104 (1)(b).

- 7.2 In accordance with paragraph 1.2.6 of IMO Resolution A.1138(31) PROCEDURES FOR PORT STATE CONTROL, a port State administration shall consider an exemption certificate issued under an international convention as an equivalent means of complying with that convention. In case of doubt as to whether an exemption has been granted, the port State administration should consult the flag State administration. With due respect to the Resolution it does not override the authority of the national port State administration to exercise its due diligence and rights to impose measures with regards to the safety of navigation in its waters.

8 Definitions

- 8.1 Authorized Representative (AR) has the same meaning as section 2 of the CSA 2001

9 Date of Application

- 9.1 This policy shall be in effect until rescinded, or until Regulations supersede.

10 RDIMS Reference

- 10.1 The English version of this document is saved in RDIMS under reference number 20919581. The applied naming convention is *TIER I – Policy – Risk Management in case of limited bridge visibility*.
- 10.2 La version française du présent document est dans le SGDDI et porte le numéro de référence 20919610. La règle d’affectation des noms est *VOLET I – Politique – Gestion des risques en cas de visibilité limitée de la passerelle*.
- 10.3 This is the first approved and finalized English version of this document.

11 Keywords

- SOLAS V Regulation 22
- Bridge Visibility
- Obstructed view
- Camera
- Video surveillance
- Workboats

Annex I - Guidance for risk mitigation by Bridge visibility obstructed by deck cargo.

The following guidelines are intended for use by Authorized Representatives (ARs) and are considered the minimum requirements when compliance with SOLAS Chapter V, Regulation 22 is not possible.

1. Risk Management

- 1.1 The risks associated with the reduced bridge visibility should be appropriately identified and measures for the intended voyages and vessel to reduce the risks to ensure an equivalent level of safety is reached from the applicable requirements should be put in place.
- 1.2 Safety Management System procedures to ensure equivalent visibility shall be developed by AR.

2. Mitigation measures

The measures suggested below are provided as a guidance and are not to be considered as complete risk mitigations.

- 2.1 Real time video cameras connected to monitors on the navigation bridge accessible from the central conning position. Their primary function would be to display the areas of blind sectors and enhance forward visibility, particularly in ranges that are typically obstructed.
- 2.2 Training/Familiarisation for all bridge officers on use of the Camera system as part of the company safety management system.
- 2.3 Readily available additional lookout provided with range meter and established means of communication to the bridge shall be posted on the forecastle.
- 2.4 A shelter to be in place structurally designed to withstand marine weather conditions (precipitations, cold temperature, seas, wind...) offering a secure lookout point with unobstructed visibility that encompasses all blind sectors.
- 2.5 Readily available additional lookout posted on the bridge to be utilized on bridge wings as necessary.
- 2.6 Watchkeeping working arrangement posted on the bridge.
- 2.7 Mandatory bridge resource management briefing held prior to entry into Canadian Waters.
- 2.8 Vessels should be equipped with a functioning AIS output available to pilot as described in circular SN1 – Circ. 227 of the International Maritime Organization.

3. Video surveillance camera specifications

Performance criteria:

- a) Detect a 10 meters vessel at distance of 3 nm ²
Note: If visibility is restricted to less than 3 nautical miles, an equivalent range detection must be provided.
- b) Detect human sized target at a distance of 0.5nm
- c) Shall provide complete coverage of the blind zone
- d) Gyro Stabilized with pan/tilt control
- e) Camera heading reference system to indicate direction regarding ship's centerline
- f) Day and night vision. Dual payload: thermal camera plus a high-definition visible camera with optical zoom.
- g) Minimum illumination for visible camera: 0.1 lux
- h) Resolution not less than High Definition up to 1080p/30Fps
- i) Connected to the emergency power supply (also applicable to display monitor)
- j) Operating Temperature Range: -13°F to +131°F (-25°C to +55°C)
Automatic Window Defrost: Standard at Power-Up
- k) Water Ingress IPX6 (heavy seas, power jets of water) Ingress Protection (IP) Testing is a standard IEC 60529
- l) Vibration standard IEC 60945
- m) Salt Mist standard IEC 60945
- n) Sand/Dust Ingress: IP6X
- o) Wind: 100 knots (115.2 MPH)

Bridge display:

The navigational bridge display should have means to adjust the contrast and brightness. The range of control should permit the display to be legible under all ambient light conditions.

The display shall comply with IEC 60945: Maritime navigation and radiocommunication equipment and systems – General requirements – Methods of testing and required test results

The display should be visible from conning position or camera should be connected to multifunctional bridge display.

4. Examples of additional measures

4.1 Daytime transit

² Standard taken from the International Maritime Organisation Resolution MSC.192(70) adoption of the revised performance standards for radar equipment

- 4.2 Additional pilot on board
- 4.3 Maximum restricted visibility distance
- 4.4 Patrol vessel in areas with high pleasure craft traffic density.