

NSCV part C subsection 7C — Navigation Equipment		
NSCV reference	Topic	Comment
2.2	Required outcomes A vessel must be provided with navigation equipment of a type and quantity appropriate to control to acceptable levels the risks associated with navigating the vessel during normal and emergency conditions taking into account the type of operation, time of operation, area of operation, environmental factors and other risks	The <i>Transport Operations (Marine Safety) Act 1994</i> (the Act) section 41 requires a ship to be appropriately equipped and crewed, to meet the ordinary perils of the voyage on which the ship is proceeding or about to proceed. The Transport Operations (Marine Safety — Commercial Ships and Fishing Ships Miscellaneous Equipment) Standard 2006 section 5 states that the standard will help people to understand their general safety obligation and vessels should be equipped as per the Uniform Shipping Laws Code (USL Code), sections 12, 13, 18.
2.5	Route planning and position monitoring	Means must be provided to plan and display the vessel's route for the intended voyage and then to establish, monitor and plot the vessel's position throughout the voyage in relation to the planned route as well as to known and reported dangers to navigation.
2.6	Means to determine and display heading	Means must be provided to determine the vessel's heading and display the reading at the steering position while operating the vessel, including during any emergency situations.
2.8	Means to visually indicate vessel presence and manoeuvring intentions and limitations	The requirements of the International Regulations for Preventing Collisions at Sea (Marine Orders part 30) and local rules prevail. Navigation lights, day shapes and sound signals are part of the requirement.
2.10	Provision for non-visual detection of the vessel Means must be provided to enable the vessel to be detected by radar.	This section requires provision of a radar reflector and it should be displayed while at sea. Radar reflectors shall be suitable for use with radar operating in the 3GHz and 9GHz bands.
2.14	Equivalent solutions	Assessment methods for equivalent solutions applicable to navigation equipment shall comply with part B of the national standard. Equivalent solutions applicable to navigation equipment shall be verified in a manner appropriate to the risks that would arise should the equipment be found wanting.
Chapter 3	Navigational equipment design and construction	Navigational lights, shapes and sound signals shall comply with the design and performance provisions of Marine Orders part 30.
3.3.2	Assessment and verification Table 1 sets out the construction and performance requirements for navigational equipment.	Table 1 sets out the construction and performance requirements for navigational equipment.
Chapter 4	Type and quantity of navigation equipment	All vessels 35 metres (m) and over in length; as well as Operational Area A vessels 24 m and over in length shall comply with the provisions of Marine Orders part 21.

Table 2	<p>Scales of navigation equipment for vessels</p> <p>The chart is to be read in conjunction with the Key below the chart and clauses 2.8 to 2.11 inclusive.</p>	<p>This chart should be referred to closely as some requirements have changed</p> <p>Some examples:</p> <ul style="list-style-type: none"> • AIS Class A is mandatory for Class 1 vessels greater than 12 m in A,B,C waters • AIS Class B (TX/RX) mandatory for Class 1 vessels less than 12 m, and all Class 2 and 3 vessels in area A and B • not mandatory for vessels less than 12 m class D and E to carry paper charts. General Safety Obligation still applies. Note 2 refers to good operational practice • all vessels less than 12 m in all operational areas are to be equipped with a radar reflector • all vessels in all operational areas are to have a speed and distance indicator. • all vessels in all operational areas are to be equipped with an echo sounder. • all vessels are to have a clock (it can be incorporated in another piece of equipment on board) • communication systems between master and the emergency steering position is to be provided.
4.5	Electrical energy source for all electronic navigation equipment	A reserve source of electrical energy shall be provided to operate the navigational equipment when the main source of electrical energy is unavailable.
Chapter 5	Installation of navigation equipment	The objective of this chapter is to ensure that the installation of navigational equipment facilitates the safe operation of the vessel.
5.3.2	Location of navigational equipment	Electronic equipment shall be installed in such a location that: <ul style="list-style-type: none"> a) it is protected from the harmful effects of the marine environment b) it will not affect any of the vessels compasses or other navigational equipment in accordance with clause 5.3.3 (reference to interference caused by electrical and other equipment on navigational equipment).
Chapter 6 6.4	Servicing of navigation equipment	Compasses shall be adjusted in accordance with Annex A.
Annex A A2.1	Compasses	Any compass fitted on board shall be either: <ul style="list-style-type: none"> a) capable of being used as a magnetic compass in the event of a power failure b) provided with an emergency electrical supply capable of operating the installation as specified in NSCV part C subsection 5B.
A2.4	Compass card Table A.2 magnetic compass cards	Vessels less than 10 m can have a 75 millimetre (mm) compass card diameter. Vessels 10 m and over but less than 20 m are to have a 100 mm compass card diameter. Vessels 20 m and over are to have a 125 mm compass card diameter.
A3.1	Installation	A magnetic compass in a vessel shall be located forward of the steering wheel/controls in such a manner that it can be easily read from the normal steering position.
A4	Adjustment of compasses	The compass or compasses shall be adjusted at intervals not exceeding four years or at a lesser interval where any of the conditions listed are met (a) to (c).

Annex B	Nautical Charts and Publications B2	Nautical charts and publications shall be: <ul style="list-style-type: none"> a) originated by a relevant government authority or an authorised national hydrographical office b) appropriate for the vessels area of operation c) up-to-date nautical charts and publications may consist of, but are not restricted to the following (i)to (vi).
Annex C	Nautical Chart Systems C2 Requirements for chart systems	Nautical chart systems shall comply with clauses C2.1 to C2.2 inclusive.
C2.1	Paper chart based systems	Instruments required for navigation using paper charts shall include: <ul style="list-style-type: none"> a) a means to measure, transfer and plot bearings b) a means to measure, transfer and mark distances and ranges c) a means to mark and move positions and tracks on the chart.
C2.2	Electronic navigation display systems	Relates to plotters and GPS systems. ECDIS shall comply with the provisions of Marine Orders Part 21.
C2.2.1	ECDIS	ECDIS shall comply with the provisions of Marine Orders part 21. Note — compliant ECDIS charts are to be by approved hydrographic organisations.
C2.2.2	ECS	ECS shall meet the requirements of clauses C2.2.2.1 to C 2.2.2.3 (regarding backup, display information and display legibility). Note — compliant ECDIS charts are to be by approved hydrographic organisations.