Section 3 Vessel Information

3.1 Automatic Identification System and Electronic Chart System

Automatic Identification System (AIS) and Electronic Chart System (ECS) can be utilised to enhance situational awareness and aid collision avoidance.

The performance and effectiveness of AIS and ECS as aids to masters and vessel traffic service operators is heavily dependent on the correct configuration and operation of these units.

All requirements listed here are considered to be minimum requirements.

The equipment prescribed in this Standard is to improve situational awareness and collision avoidance and does not replace navigational equipment mandated by relevant state, national, or international legislation.

3.1.1 Automatic Identification System

All commercial vessels 10 metres or greater in length (excluding dumb barges) and all passenger transfer vessels 6 metres or greater in length, involved in construction activities in the Port and not required to carry Class A AIS must have Class B[1] AIS transceivers installed, configured and operating in the manner prescribed in this document.

The AIS unit must:

- comply with International Electrotechnical Commission (IEC) standards[2]
- be installed, configured and operated so as to transmit and receive AIS data and display received AIS data on an ECS
- broadcast prescribed static information indicating certain particulars of the vessel including Maritime Mobile Service Identity (MMSI) [3], name, type of vessel, call sign (if applicable) and dimensions of vessel.
- broadcast prescribed dynamic information[4] about the vessel's position and movement
- refresh dynamic information at intervals no greater than every 30 seconds (if the speed over ground of the vessel is greater than two knots) and no greater than every three minutes (if the speed over ground of the vessel is equal to or less than two knots)
- be capable of receiving VDL (VHF Data Link) Message 21 – Aids To Navigation Report for reception of Virtual Aid to Navigation information.

Masters will be required to demonstrate their ability to use AIS equipment as a situational awareness tool.

Further information about AIS units is provided in Appendix 8.3.

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[1] Class B AIS transceivers are AIS units that perform not necessarily in full accordance with IMO's AIS requirements. Class B units are defined in Recommendation ITU-R M.1371 and test standard IEC 62287.

[2] In particular the AIS unit must conform with the following IEC standards as appropriate:

1. IEC 62287-1 *Maritime navigation and radio communication equipment and systems – Class B ship-borne equipment of the Automatic Identification System (AIS) – Part 1: Carrier Sense time division multiple access (CSTMDA) techniques*
2. IEC 61993-2 *Maritime navigation and radio communication equipment and systems – Automatic Identification Systems (AIS) – Part 2: Class A shipborne equipment of the universal Automatic Identification Systems (AIS) – Operational and performance requirements, methods of test and required test results*

In particular the radar is recommended to conform with the following IEC standard:

3. IEC 62252 *Maritime navigation and radio communication equipment and systems – Radar for craft not in compliance with IMO SOLAS Chapter V – Performance requirements, methods of test and required test results*

[3] The Australian Maritime Safety Authority (AMSA) allocates and issues MMSI to vessels.

[4] Dynamic information to be broadcast includes the vessel's position (with accuracy indication and integrity status), time (in UTC), course over ground, speed over ground and true heading (optional).

3.1.2 Electronic Chart System

All commercial vessels 10 metres or greater in length (excluding dumb barges) and all passenger transfer vessels 6 metres or greater in length, involved in construction activities must have an ECS, operating and configured to display prescribed AIS vessel information for the vessel and vessels in the vicinity on a single graphic display, that complies with the National Standard for Commercial Vessels[5].

The ECS must show the following AIS information for vessels in the vicinity:

- vessel name
- position and time of position
- course and speed over ground
- Closest Point Approach (CPA)
- Time to Closest Point of Approach (TCPA).

An AIS Minimum Keyboard Display (MKD) which provides information as text only or an MKD which provides limited graphics is **not** sufficient.

Masters are to ensure that the datum of the charts used by the ECS and the electronic position fixing system used by the AIS transceiver are both set to WGS-84.

Masters are to ensure that charts used are current and appropriate for the operating conditions within the Port of Gladstone.

3.2 Vessel Specific Information

All vessels must comply with minimum manning levels as per the National Standard for Commercial Vessels (NSCV) Part D Chapter 2, except vessels less than 12 metres, including tender vessels, which are to have a minimum of two crew.

All vessels towing barges and any other floating plant in the Marine Construction Activity Area are required to have sufficient horsepower to enable them to fully navigate all areas of the harbour at all states of the flood and ebb tides (Section 2.1 dot point 5 provides guidance on the minimum acceptable).

3.2.1 Barges

- **When** any barge is **fitted** with a crane, pile driver, excavator, or any other equipment that may affect stability (whether the equipment is being used or not), the barge must be manned by a barge master, in addition to the supporting tug's master. The barge master is to hold a minimum of Master Class 4 and is responsible for safe operations aboard the barge.
- The Master Class 4 may be aboard the support tug when tied alongside. Should the Master Class 4 leave the immediate work area, works are to cease.
- Barges less than 24 metres fitted with equipment where stability is not a concern (for example, drill rigs with up to a six metre mast) must have at least a Master Class 5 in attendance.
- Barges must be equipped with a VHF radio to enable contact with harbour control. The radio is to be clearly heard on deck (speakers to be employed if required) and in addition a hand held radio must be carried by the barge master.
- All manned barges must have a tender vessel in attendance. As the barge is fitted with life saving appliances, the tender does not need to be of a capacity to carry the entire barge crew at once.
- All barge traffic operating at facilities behind the Clinton Wharves RG Tanna coal facility, irrespective of the cargo carried by the barge, shall employ 2 tugs. Under this

[5] As specified in Annex C to Part C, Section 7, Subsection 7C of the *National Standard for Commercial Vessels:*
2.2.2.3 Display legibility - The display shall be viewable and all text legible by day and night at a minimum distance of 1 metre from the *ECS* or where the design of the navigation control station does not allow a 1 metre viewing distance, the maximum distance that the person responsible for navigation may be from the *ECS* while navigating the vessel.

arrangement 1 tug will act as a primary tug and 1 tug will act as an assist. Both tugs are to be secured to the barge at all times when behind the wharves until such time as the unit is clear to the south. The assist tug is to be of sufficient capacity that is can control and safely manoeuvre the combination, in the event the primary tug suffers a casualty. A lines or work boat will not be considered to be an assist tug.

- Barge traffic operating within the construction area will generally be controlled by a primary tug or in certain circumstances with an assist tug standing by alongside the barge, or connected up to the barge. The machinery configuration of the primary tug, the use of the assist tug and the size of the tugs will be agreed by the Regional Harbour Master (RHM) during the MEP approval process. Contractors are encouraged to discuss their proposals with the RHM well in advance of the presentation of any documents to ensure only suitable vessels are put forward for approval.

3.2.2 Jack-up Barges

Any barges that are jack-up barges engaged in marine construction activities are required to comply with the following:

- When a jack-up barge less than 24 metres is not in the jacked-up position but is a ship and in the water then it must have in attendance a person that holds at least the minimum of a Master Class 5 certificate of competence.
- If a jack-up barge less than 24 metres is attended by a tug or work vessel then it is taken to comply if the tug or work vessel is manned by at least a Master Class 5.
- When the jack-up barge is greater than 24 metres, not in the jacked-up position but is a ship and in the water then it must have in attendance a person that holds at least the minimum of a Master Class 4 certificate of competence.
- If a jack-up barge greater than 24 metres is attended by a tug or work vessel then it is taken to comply if the tug or work vessel is manned by at least a Master Class 4 certificate of competence.
- When in the jacked-up mode, the barge does not require a Master 4 or 5 but it does require competent personnel to operate the jack-up in accordance with any operational policies and procedures whilst in operation.

3.2.3 Passenger Transfer Vessels

- Construction passenger transfer vessels are to display a yellow flashing light. The yellow flashing light is to be in accordance with the specifications prescribed by Rule 21 of the International Regulations for the prevention of Collisions at Sea (ColRegs) and must:
  - be installed so as to provide 360° arc of visibility
  - only be displayed when the vessel is underway.
  - satisfy the colour and intensity specifications of Sections 7 and 8 of Annex 1 (of the Colregs)
  - be displayed on all passenger transfer vessels of greater than 6 metres in length.
- Passenger transfer vessels are not to exceed a maximum speed of 25 knots.
- The commercial operator is to submit a Passenger numbers verification procedure as part of a marine execution plan prior to commencing works, including the method of tracking passenger numbers and identities in the event of marine emergencies.
- All passengers travelling on RO-RO vessels are not permitted to travel inside vehicles. All passengers must be accommodated in the passenger accommodation area only.

3.2.4 Tugs

All tugs new to the Gladstone marine construction area, must ensure the tow hook/ winch quick release will operate under all towing conditions via a load test. This test must be undertaken with an MSQ or Class surveyor and the results of this test provided to the RHM with the vessel's Marine Execution Plan. Approval to operate will not be given until the results of this test are provided.