Queensland

Transport Operations (Marine Safety) Act 1994

Transport Operations (Marine Safety—Designing and Building Commercial Ships and Fishing Ships) Interim Standard (No. 2) 2005

Reprinted as in force on 1 September 2005

Reprint No. 1

This reprint is prepared by
the Office of the Queensland Parliamentary Counsel

NOT FURTHER AMENDED
LAST REPRINT BEFORE REPEAL
See 2006 SL No. 17 s 41

Information about this reprint

This standard is reprinted as at 1 September 2005.

This page is specific to this reprint. A table of reprints is included in the endnotes.

Also see endnotes for information about when provisions commenced.

Dates shown on reprints

Reprints dated at last amendment All reprints produced on or after 1 July 2002, hard copy and electronic, are dated as at the last date of amendment. Previously reprints were dated as at the date of publication. If a hard copy reprint is dated earlier than an electronic version published before 1 July 2002, it means the legislation was not further amended and the reprint date is the commencement of the last amendment.

If the date of a hard copy reprint is the same as the date shown for an electronic version previously published, it merely means that the electronic version was published before the hard copy version. Also, any revised edition of the previously published electronic version will have the same date as that version.

Replacement reprint date If the date of a hard copy reprint is the same as the date shown on another hard copy reprint it means that one is the replacement of the other.

Queensland

Transport Operations (Marine Safety—Designing and Building Commercial Ships and Fishing Ships) Interim Standard (No. 2) 2005

Contents

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[reprinted as in force on 1 September 2005]

Part 1 Preliminary

1 Short title

This standard may be cited as the *Transport Operations (Marine Safety—Designing and Building Commercial Ships and Fishing Ships) Interim Standard (No. 2) 2005*.

2 Commencement

This standard commences on 1 September 2005.

3 Definitions

In this standard—

class 1 commercial ship means a commercial ship registered under the USL code as a class 1 passenger ship.

classification society see schedule 15[1] of the regulation.

commercial ship see schedule 15 of the regulation.

fishing ship see schedule 15 of the regulation.

part of a ship means a section of the hull, bulkhead, deck, superstructure, electrical systems or machinery (including propulsion and associated systems) of a ship.

1 Schedule 15 (Dictionary) of the regulation

regulation means the *Transport Operations (Marine Safety) Regulation 2004.*

rule includes a non-statutory code, regulation or standard issued by a classification society or other entity that specifies rules for specialised ships, for example, a hovercraft.

ship means a commercial ship or fishing ship, or part of a commercial ship or fishing ship.

ship builder means a person who builds a ship or part of a ship.

ship designer means a person who designs a ship or part of a ship.

USL code see schedule 15 of the regulation.

4 Purposes of standard

The purposes of this standard are to—

(a) set standards for designing and building ships; and

(b) help people to understand the general safety obligations imposed on them under part 4, division 1[2] of the Act.

5 How to understand this standard

(1) This standard provides 2 approaches for designing and building ships.

(2) The approaches are—

(a) a performance based approach allowing for innovation in the way ships are designed and built; and

(b) a prescriptive based approach following the requirements of the USL code, or a rule, about the way ships are designed and built.

2 Part 4 (General safety obligations and standards), division 1 (General safety obligations) of the Act

Part 2 Performance based approach

Division 1 Designing ships

6 Stress

(1) A ship designer should design a ship so that the calculated stress in any machinery component or member of the ship should not be greater than the maximum permissible stress derived from the minimum guaranteed mechanical properties of the material used in the component or member.

(2) The design should include an adequate safety factor for the ship.

7 Verifying design

(1) A ship designer should verify the sufficiency of the design of a ship including the specifications, details and calculations for the design.

(2) The material specifications and design details should—

(a) contain enough information and detail to allow a comparison with other design standards; and

(b) state the design is adequate for the intended service.

(3) The design calculations should take into account all foreseeable static and dynamic forces the ship may meet that may be induced by the sea, weather, motion and any stowed or wheeled cargo in the intended service.

(4) If design calculations are not provided, appropriate sections of the ship should be tested and analysed to determine the adequacy of the structural design and suitability for the intended service.

(5) If design calculations or test section results are not provided, full scale actual trials should be completed in all anticipated weather conditions to determine actual loadings to indicate

the adequacy of the structural design and suitability for the intended service.

(6) The structural sufficiency of a ship may also be demonstrated by documented comparison with a similar ship of similar size, power and displacement that has proven structural adequacy in commercial or fishing operations for 5 years.

8 Components

A ship designer should design all components contributing to the ship's structural strength to resist deformation from possible water pressure generated by the static and dynamic forces of the sea in all anticipated weather conditions.

9 Structure

A ship designer should design the ship's structure to—

(a) resist deformation by impulse forces generated by engines and propellers; and

(b) withstand structural failure under anticipated operational impact forces.

10 Designing vision and access components

A ship designer should design all vision and access components fitted to the ship to be of adequate strength to stop water entering the ship through the components in all anticipated weather conditions in the intended operational area.

11 Designing for passenger comfort and protection

A ship designer should design a ship's structure and accommodation to give reasonable comfort and protection from injury to everyone on the ship in all anticipated weather conditions in the intended operational area.

12 Designing for protection from fire

(1) A ship designer should design a ship to give protection from fire hazards.

(2) The ship designer should have regard to the following—

(a) the availability of the ship's main functions and safety systems including propulsion and control, fire detection, alarms and extinguishing capability through unaffected spaces in case of fire in any 1 compartment on board;

(b) the division of passenger accommodation areas in a way that the occupants of a compartment can escape to an alternative safe area or compartment in case of fire;

(c) the subdivision of the ship by fire-resistant boundaries;

(d) the restricted use of combustible materials and materials generating smoke and toxic gases in a fire;

(e) the continuous detection of fire and its containment and extinguishment in the space of origin;

(f) the protection of the means of escape and access for fire fighting, and the immediate availability of fire extinguishing appliances.

13 Designing propulsion machinery

A ship designer should design a ship's propulsion machinery, components and associated systems to be—

(a) adequate for the intended purpose; and

(b) of robust design to operate reliably in all anticipated weather conditions in the intended operational area.

14 Designing steering system

A ship designer should design a ship's steering system to—

(a) steer the ship in all sea and anticipated weather conditions; and

(b) include another way of steering the ship if the main steering system fails.

15 Designing machinery and associated systems to minimise fire risk

A ship designer should design a ship's machinery and associated systems to minimise the risk of fire from a malfunction in the machinery or system in any anticipated operating condition.

16 Designing bilge pumping system

(1) A ship designer should design a ship to include a bilge pumping system capable of removing an accumulation of water in the ship affecting its safe operation.

(2) The system should enable stability to be achieved or maintained under reasonable conditions of list and trim.

17 Buoyancy and stability

(1) A ship designer should design a ship so the ship's form and structure gives an adequate reserve of intact buoyancy and stability in all anticipated loading conditions to prevent the ship from capsizing in all anticipated weather conditions in the intended operational area.

(2) If the ship is a class 1 commercial ship, the form and structure of the ship should give an adequate reserve of intact buoyancy and stability in all anticipated loading conditions necessary to maintain the safety of passengers and crew in all anticipated weather conditions in the intended operational area.

18 Subdivision

A ship designer should design a class 1 commercial ship so the ship's form and structure gives an adequate reserve of damaged stability in all anticipated conditions if any 1 compartment of the ship is open to the sea.

Division 2 Building ships

19 Ship building facilities

A ship builder should build ships with equipment, and in premises, appropriate for the ship being built to best industry practice.

20 Ship to be built as specified in design and specifications

(1) A ship builder should build a ship in accordance with the design and specifications for the ship.

(2) If there are no specifications for a ship, the ship builder should build the ship using good quality materials and best industry practice.

21 Building vision and access components

A ship builder should build all vision and access components fitted to the ship to be of adequate strength to stop water entering the ship through the components in all anticipated weather conditions in the intended operational area.

22 Building for passenger comfort and protection

A ship builder should build a ship's structure and accommodation to give reasonable comfort and protection from injury to everyone on the ship in all anticipated weather conditions in the intended operational area.

23 Other entry of water

A ship builder should build a ship to stop water entering the hull in all anticipated weather conditions in the intended operational area.

24 Building to give protection from fire

(1) A ship builder should build a ship's structure to give protection from fire hazards.

(2) The ship builder should have regard to the following—

(a) the availability of the ship's main functions and safety systems including propulsion and control, fire detection, alarms and extinguishing capability through unaffected spaces in case of fire in any 1 compartment on board;

(b) the division of passenger accommodation areas in such a way that the occupants of a compartment can escape to an alternative safe area or compartment in case of fire;

(c) the subdivision of the ship by fire-resistant boundaries;

(d) the restricted use of combustible materials and materials generating smoke and toxic gases in a fire;

(e) the continuous detection of fire and its containment and extinguishment in the space of origin;

(f) the protection of the means of escape and access for fire fighting, and the immediate availability of fire extinguishing appliances.

25 Building propulsion machinery

A ship builder should build a ship's propulsion machinery, components and associated systems to be—

(a) adequate for the intended purpose; and

(b) of robust design to operate reliably in all conditions in the intended operational area.

26 Building steering system

A ship builder should build a ship's steering system to—

(a) steer the ship in all sea and weather conditions; and

(b) include another way of steering the ship if the main steering system fails.

27 Shielding hazardous machinery

A ship builder should shield hazardous machinery on a ship to prevent the risk of injury.

28 Building machinery and associated systems to minimise fire risk

A ship builder should build a ship's machinery and associated systems to minimise the risk of fire from a malfunction in the machinery or system in any operating condition.

29 Building bilge pumping system

(1) A ship builder should build a ship to include a bilge pumping system capable of removing an accumulation of water in the ship affecting its safe operation.

(2) The system should enable stability to be achieved or maintained under reasonable conditions of list and trim.

30 Identifying components of associated machinery

A ship builder should provide an efficient and effective way to quickly identify and locate each component of the associated machinery system in normal and emergency operations.

Part 3 Prescriptive based approach

Division 1 Designing ships

31 Designer should comply with USL code or rule

(1) A ship designer should design a ship to comply with—

(a) the USL code; or

(b) a rule; or

(c) a combination of the USL code and a rule.

(2) However, a part of a ship should not be designed to comply with a combination of—

(a) the USL code and a rule; or

(b) rules.

Division 2 Building ships

32 Builder should comply with USL code or rule

(1) A ship builder should build a ship to comply with—

(a) the USL code; or

(b) a rule; or

(c) a combination of the USL code and a rule.

(2) However, a part of a ship should not be built to comply with a combination of—

(a) the USL code and a rule; or

(b) rules.

Part 4 Common requirements for both approaches for ship building

33 Electrical work

(1) A ship builder should ensure electrical work on a ship is done under the *Electrical Safety Act 2002*.

(2) In this section—

electrical work has the meaning given in the *Electrical Safety Act 2002*, section 18.[3]

34 Employees of ship builders

(1) A ship builder should ensure the builder's employees are appropriately qualified and sufficiently trained for their ship building work.

(2) Without limiting subsection (1), welders working on aluminium ships should have the qualifications stated in AS 1665–1992.[4]

35 Premises for building fibre-reinforced plastic ships

A ship builder who builds fibre-reinforced plastic ships should ensure the premises where the ships are built conform with AS 4132.3–1993, part 3.[5]

36 Hull identification number (HIN)

A ship builder should provide a hull identification number as a means of identifying a ship.

Part 5 Expiry

37 Expiry

This standard expires 6 months after its commencement.

3 *Electrical Safety Act 2002*, section 18 (Meaning of *electrical work*)

4 AS 1665–1992 (Welding of aluminium structures)

5 AS 4132.3–1993 (Boat and ship design and construction), part 3 (Fibre-reinforced plastics construction)

Part 6 Repeal and transitional provision

38 Repeal

The Transport Operations (Marine Safety—Designing and Building Commercial Ships and Fishing Ships) Interim Standard 2005 SL No. 19 is repealed.

39 References to former standards

(1) In a document or instrument a reference to the following standards may, if the context permits, be taken to be a reference to this standard—

- *Transport Operations (Marine Safety—Designing and Building Commercial and Fishing Ships) Standard 1998*
- *Transport Operations (Marine Safety—Designing and Building Commercial Ships and Fishing Ships) Interim Standard 2005*.

(2) Subsection (1) does not limit the application of the *Acts Interpretation Act 1954*, section 14H.[6]

6 *Acts Interpretation Act 1954*, section 14H (References taken to be included in reference to law)

Endnotes

1 Index to endnotes

2 Date to which amendments incorporated

This is the reprint date mentioned in the Reprints Act 1992, section 5(c). However, no amendments have commenced operation on or before that day. Future amendments of the Transport Operations (Marine Safety—Designing and Building Commercial Ships and Fishing Ships) Interim Standard (No. 2) 2005 may be made in accordance with this reprint under the Reprints Act 1992, section 49.

3 Key

Key to abbreviations in list of legislation and annotations

Key		Explanation	Key		Explanation
AIA	**=**	**Acts Interpretation Act 1954**	**(prev)**	**=**	**previously**
amd	**=**	**amended**	**proc**	**=**	**proclamation**
amdt	**=**	**amendment**	**prov**	**=**	**provision**
ch	**=**	**chapter**	**pt**	**=**	**part**
def	**=**	**definition**	**pubd**	**=**	**published**
div	**=**	**division**	**R[X]**	**=**	**Reprint No.[X]**
exp	**=**	**expires/expired**	**RA**	**=**	**Reprints Act 1992**
gaz	**=**	**gazette**	**reloc**	**=**	**relocated**
hdg	**=**	**heading**	**renum**	**=**	**renumbered**
ins	**=**	**inserted**	**rep**	**=**	**repealed**
lap	**=**	**lapsed**	**(retro)**	**=**	**retrospectively**
notfd	**=**	**notified**	**rv**	**=**	**revised edition**
o in c	**=**	**order in council**	**s**	**=**	**section**
om	**=**	**omitted**	**sch**	**=**	**schedule**
orig	**=**	**original**	**sdiv**	**=**	**subdivision**
p	**=**	**page**	**SIA**	**=**	**Statutory Instruments Act 1992**
para	**=**	**paragraph**	**SIR**	**=**	**Statutory Instruments Regulation 2002**
prec	**=**	**preceding**	**SL**	**=**	**subordinate legislation**
pres	**=**	**present**	**sub**	**=**	**substituted**
prev	**=**	**previous**	**unnum**	**=**	**unnumbered**

4 Table of reprints

Reprints are issued for both future and past effective dates. For the most up-to-date table of reprints, see the reprint with the latest effective date.

If a reprint number includes a letter of the alphabet, the reprint was released in unauthorised, electronic form only.

Reprint No.	Amendments included	Effective	Notes
1	none	1 September 2005	

5 List of legislation

Transport Operations (Marine Safety—Designing and Building Commercial Ships and Fishing Ships) Interim Standard (No. 2) 2005 SL No. 180

notfd gaz 12 August 2005 pp 1297–1303

ss 1–2 commenced on date of notification

remaining provisions commenced 1 September 2005 (see s 2)

exp 1 March 2006 (see s 37)

Note—The expiry date may have changed since this reprint was published. See the latest reprint of the SIR for any change.