

The law and you

Seven commercial vessel standards to enter national law in October

Vessel under construction. Austal/Onezthree 23m Queensland Police Patrol Catamaran. Photo courtesy of Austal Tasmania.

The National Marine Safety Committee (NMSC) is progressively working towards achieving nationally uniform marine safety standards.

The National Standard for Commercial Vessels (NSCV) is the principal technical standard for commercial vessels and will gradually replace the Uniform Shipping Laws (USL) Code. It provides a common national standard for the design, construction, crewing and operation of vessels.

The National Marine Safety Committee has reminded the marine industry that the next raft of national standards for commercial vessels enters legislation nationally on October 1 this year through an amendment to the USL Code (Amendment 7).

This round of reform sees six sections of the National Standard for Commercial Vessels (NSCV) come into force for new vessels. The relevant standards are:

- Construction (NSCV Part C Section 3)
- Stability Information (NSCV Part C Subsection 6A)
- Stability Tests (NSCV Part C Subsection 6C)
- Communication Equipment (NSCV Part C Subsection 7B)
- Navigation Equipment (NSCV Part C Subsection 7C)
- Anchoring Systems (NSCV Part C Subsection 7D).

A seventh section, Operational Practices (NSCV Part E) will apply to all new registrable vessels in Queensland. It includes new requirements that cover safer operating practices, emergency planning and ship management systems.

National Marine Safety Committee CEO Margie O'Tarpey explained that the USL Code was widely, although not universally, implemented by state, territory and commonwealth marine safety agencies as the standard for commercial vessels.

'This amendment provides a convenient way to replace the old USL requirements — developed nearly 30 years ago — with a much more modern and flexible set of standards,' Ms O'Tarpey said.

For those jurisdictions that currently allow vessels to comply with the USL Code, a new vessel which submitted an application prior to 1 October 2009 can be built to these existing requirements, provided construction work begins within a three-year period. However, design approvals submitted after

1 October 2009 must comply with the new standards.

'This allows a transitional period for vessel builders over the next couple of months,' Ms O'Tarpey said. 'The transition period applies in all jurisdictions except those which already require compliance with only the NSCV.' For most of the design sections, jurisdictions which have already brought in the NSCV — Queensland and Tasmania — generally apply the design and construction sections in addition to the USL Code.

NMSC will be placing a helpful guide, entitled the Combined NSCV/USLCode 2009, on its website to allow industry around the country to understand what sections of the USL Code have been replaced by the NSCV.

NSCV C3 — Construction references Lloyds Special Service Class Rules and is a key standard for national marine safety consistency.

Industry representatives welcoming the next phase of standards entering legislation nationally include naval architect Graham Taylor. Mr Taylor, who is also the Secretary of the Royal Institution of Naval Architects Australia, views the completion of the stability standards (**C6A — Intact Stability Requirements and C6C — Stability Tests and Information**) as another important step toward the ultimate completion of the NSCV.

‘These parts of the NSCV are a major upgrade reflecting current international standards,’ Mr Taylor said. ‘They provide a consistent approach, application and terminology for all types of vessels — something that was missing from the previous USL Code.’

‘Gaps and lack of detail in parts previously meant that the naval architect often needed a knowledge of what was left unsaid to allow proper application — the thorough coverage means that even the novice can confidently apply the new standards.’

‘This detailed, consistent approach should also ensure consistent application by all state authorities and their ready acceptance of vessels when transferring interstate.’

The national standard for **Navigation equipment (NSCV C7C)** reflects the latest in marine navigational technology.

The Australian Maritime Safety Authority’s AIS project manager Jillian Carson-Jackson said that Section 7C of the NSCV delivers, for the first time, a uniform national standard for nautical charts and associated navigation systems — and particularly Electronic Chart Systems scaled for vessel size and operating areas.

‘Its introduction will foster improvements to navigation safety comparable to those achieved by larger vessels administered under the SOLAS Convention while recognising that the circumstances and needs of operators of smaller commercial vessels may differ,’ Ms Carson-Jackson said.

Section 7C also includes carriage requirements for Automated Identification Systems (AIS*) on certain vessels, including reference to either Class A or Class B units, depending on vessel size and area of operation.

Ms Carson-Jackson pointed out that AIS has been recognised by the International Maritime Organization as a means to enhance safe navigation, ‘however, it will only work when vessels are transmitting, as well as receiving, the information’.

Navigation equipment supplier Coursemaster Autopilots Managing Director Richard Chapman agrees on the importance of a nationally uniform navigation equipment standard.

‘Vessel safety and navigation is paramount and with the introduction of the new standards even safer navigation of the waterways should be achievable,’ Mr Chapman said.

‘This will become especially apparent with the installation of AIS transponders and receivers’.

Anchor Right’s owner/manager Rex Francis began testing his company’s anchors against the requirements of the new standard for **Anchoring equipment (NSCV C7D)** before it came into force. Anchor Right introduced a new method for pre-proof testing and field testing anchors for their development and strength.

‘The benefit from my point of view is that now the commercial industry can purchase an Australian anchor design that has ticked all the boxes. To have an Australian anchor design — not just mine but all Australian anchor designs — tested in Australia to comply with the revised USL Code handbook rules is simply great,’ Mr Francis said.

Ian Ford, Managing Director of major Sydney ferry company Bass and Flinders, said the requirements for **Operational Practices (Part E)** of the NSCV are a giant leap for marine safety, especially through the Safety Management System.

‘Of course many years ago, a mariner like me could build up enough knowledge and experience from being around boats to intuitively know how to operate safely — now we are in a different age where not all operators have this solid background, so this standard is all-important,’ Mr Ford said.

‘Just as airlines have safety check systems, Part E allows the marine industry to have an inbuilt national safety checklist so everyone around the country is able to do the right thing to operate our vessels safely.’

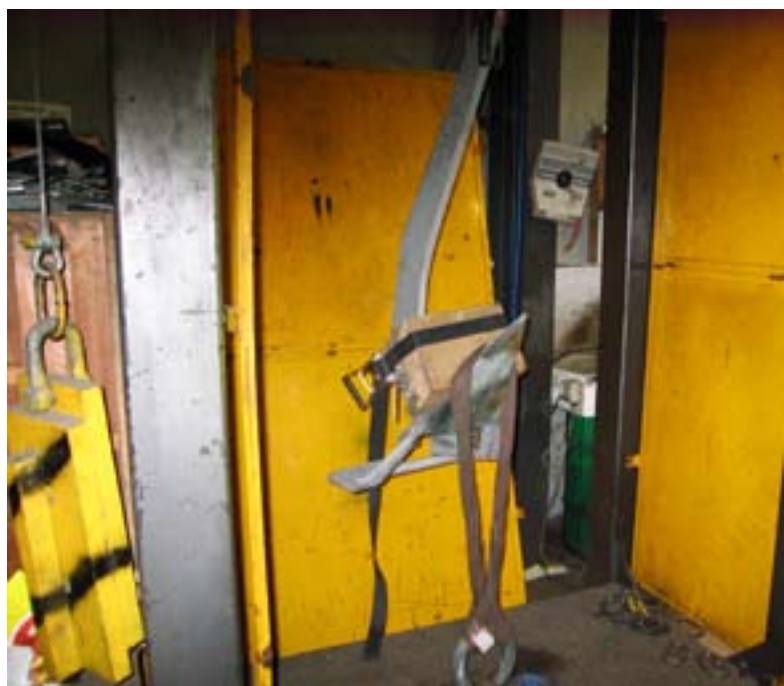
‘I’m particularly looking forward to the time when there is a national standard so that the Safety Management System requirements are the same between states.’

Upon effect, the seven standards will join the first raft of standards which entered legislation nationally in October 2008. Fire Safety (NSCV C4); Engineering (NSCV C5), Safety Equipment (NSCV C7A) and Fast Craft (NSCV F1) were adopted successfully last year.

Find out more

For more information on the Combined NSCV/USL Code 2009 please contact the NMSC Secretariat on 02 9247 2124 or visit website: www.nmsc.gov.au — click on ‘Legislated Standards 2009’. Copies of published standards can also be downloaded from this website.

*More information on AIS, including an interactive tutorial on the system, can be found at www.amsa.gov.au — look under vessel tracking and then follow the links to AIS.



Anchor tested against the standard NSCV C7D. Photo courtesy Anchor Right.

Pollution prevention

Audits of declared ships for compliance with sewage legislation

Maritime Safety Queensland is responsible for the management of ship-sourced pollution under the *Transport Operations (Marine Pollution) Act 1995* (act) and the associated *Transport Operations (Marine Pollution) Regulation 2008* (regulation).

From a general boating perspective, the major pollutants covered under this legislation are oil, garbage and sewage. The remainder, noxious liquid substances in bulk and packaged harmful substances are predominately related to commercial shipping activities.

The sewage requirements of the legislation commenced on 1 January 2004, with a phased implementation of requirements up to and including 1 January 2010.

Due to their greater sewage generating capability, declared ships commercially registered as class 1B, 1C, 1D, 1E and 1F (passenger carrying ships with a fixed toilet), such as ferries and tourist vessels, are subject to more stringent discharge restrictions and operational requirements.

These requirements regulate where treated/untreated sewage can and can't be discharged, and include specific onboard record keeping and equipment requirements that can be appropriately audited by relevant compliance/enforcement staff (authorised officers).

Authorised officers from Maritime Safety Queensland's regional offices, as well as enforcement partner Queensland Boating and Fisheries Patrol are now conducting statewide audits of declared ships for compliance with the sewage requirements of the act and regulation.

Development

To assist authorised officers when carrying out sewage compliance audits, Maritime Safety Queensland's Maritime Services Branch developed a sewage audit checklist for declared ships, to help guide authorised officers through the audit process.

The checklist was trialled on the Gold Coast with officers from that region. The purpose of the trial was to test the practical



Electric macerator pump for marine toilets.

implementation of the audit process, which proved successful both operationally and administratively.

Maritime Services Branch also developed a *Marine Pollution Non-Compliance Notice* (form F4339), to support compliance aspects of the legislation. If required, the form will be issued to the owners/masters of vessels that are found to be non-compliant with their sewage management obligations.

The form will stipulate a date that the authorised officer will revisit the vessel to confirm the necessary rectification measures have been undertaken. In the event that known instances of non-compliance are not rectified in an appropriate timeframe (in accordance with the requirements of the non-compliance notice as issued), Maritime Safety Queensland may elect to prosecute the owners and masters of such vessels under the relevant provisions of the act and/or regulation.

Presently, the maximum penalty for offences under the act is \$85,000.

An overarching administrative framework for the audit process has been developed. This framework provides a set of reference documents including Maritime Safety Queensland's policy, procedures, guidelines and an enforcement directive that describe the overall implementation regime for auditing declared ships for compliance with sewage legislation. While these documents are intended for internal use, interested parties may obtain copies from their regional Maritime Safety Queensland office for their information.

Other reference documents and studies associated with onboard sewage management include:

- Requirements for the Ongoing Assessment of Treatment System Performance: Procedural Guidelines for Owners & Masters of Ships Fitted with Sewage Treatment Systems (Guideline); and
- Ship-Sourced Sewage and Wastewater Treatment Plants: Acceptance by Local Government Authorities (Report).

These documents can also be obtained from Maritime Safety Queensland's regional offices upon request.

Rollout

In July 2009, each Maritime Safety Queensland regional office received copies of the audit checklist and triplicate booklets of form F4339 (non-compliance notice), in order to implement the audit regime for declared ships.

Individual vessels in each region are expected to be audited over the next 12 months.

Where instances of non-compliance are detected, the information from the corresponding non-compliance notice is then entered into the Commercial Information and Registration Management System (CIRMS) database, operated by Maritime Safety Queensland, to enable electronic tracking of non-compliances.

This information will assist with the compilation of risk profiles for each registered vessel and each region, which will in turn assist with appropriate intervention planning and the prioritisation of operational effort to prevent pollution.

On a monthly basis Maritime Safety Queensland's regional offices and enforcement partners will forward copies of all completed audit checklists (and any corresponding non-compliance notices) to Maritime Services Branch for central record keeping purposes and data analysis.

Future directions

Analysis of data collected during this process will serve several purposes. It will result in the development of a statewide risk profile for declared ships, in terms of potential risks to the marine environment from sewage pollution. Consequently, it will help identify problem areas with regard to ship-sourced sewage compliance and aid in the development of appropriate strategies and risk mitigation efforts to address such pollution risks. It is envisaged that the process will also give increased public confidence in Maritime Safety Queensland's ability to suitably manage the discharge of ship-sourced sewage in Queensland waters.

At present, Maritime Safety Queensland's focus on sewage compliance is one of education and the provision of information for both declared ships and recreational vessels. While auditing is currently being rolled-out for declared ships, it is envisaged audits of recreational vessels for compliance with sewage legislation will also be undertaken in due course. For example, recreational vessels fitted with a toilet will be inspected to ensure that the toilet is fitted with a macerator and that the macerator is unable to be by-passed, in accordance with the legislative obligations. Maritime Safety Queensland intends to ensure compliance with sewage legislation is achieved by all vessels for the protection of the marine environment.

Sewage is a known pathogen which contains bacteria, viruses

Pollution prevention



What kind of waterways do we want?

and parasitic micro-organisms. The discharge of sewage into a waterway has the potential to cause harmful impacts to natural ecosystems as well as create a disease risk to humans. Discolouration caused by sewage discharge also decreases the visual aesthetics of waterways.

Queensland's ship-sourced sewage legislation is aimed at protecting the marine and coastal environment from the potential impacts of sewage discharge (both deliberate and negligent), for the benefit of all waterway users. Owners and operators of declared ships are encouraged to do their part to keep Queensland's waterways clean and safe into the future, for the benefit of generations to come.

Additional information regarding Queensland's ship-sourced sewage legislation including vessel types, discharge types, waterways types, discharge maps, fact sheets, sewage management options and treatment systems. can be obtained from www.msq.qld.gov.au/Home/Environment/Sewage/.

History



Celebrating 150 years of Separation

On 10 July 1859, the paddle steamer *Clarence* arrived in the Port of Brisbane with a large banner lining the side of its hull which proclaimed 'SEPARATION'. This moment in history was recreated on Saturday 11 July 2009 with a Community Garden Party at historic Newstead House. The Maritime Safety Queensland vessel, *Champion* re-enacted the scene with the greeting party in full historical dress for the day.

Newstead House was open to the public with a number of activities including a pageant of fashion, historical vignettes and re-enactments, free concert, and the opening of new displays within Newstead House.

As part of the event, Maritime Safety Queensland's model of the QGSY *Lucinda* was loaned to Newstead House for the '50 years of maritime services to Queensland' display. It was on board the QGSY *Lucinda* that the draft Australian Constitution was framed and ratified. You can visit a replica of the QGSY *Lucinda* Smoking Room at the law courts complex in Brisbane.



The QGSY *Lucinda* model was popular with visitors.



The re-enactment was complete with the greeting party in period costumes.



Maritime Safety Queensland's historical display depicted 150 years of maritime services in Queensland.



The display featured the lantern that was raffled to provide funds for the Queensland Maritime Museum.

The Marine Board

The Marine Board was an advisory board established under the *Transport Operations (Marine Safety) Act 1994*. The board advised the former Minister for Transport, Trade, Employment and Industrial Relations, the Chief Executive of Queensland Transport and the General Manager of Maritime Safety Queensland about significant issues affecting the maritime industry. The board was composed of six members who represented a broad cross-section of the maritime industry. Each member possessed relevant knowledge and experience of the industry. Members did not represent particular bodies or companies.

The Chair was Col McKenzie (marine tourism and diving sectors). Members were Mike Bartlett (shipping and transport), Liz Hay (shipbuilders), Maria Dwyer (marine insurance), Mick Carr (maritime unions and shipping) and Robin Hansen (fishing industry). The Marine Board met eight times during 2008 and provided advice on the following issues:

- national maritime jurisdiction reform
- maritime training in Queensland
- Wunna Board of Inquiry findings
- Boat Share
- Recreational Boating Discussion Paper.

Prior to the 1990s an earlier iteration of the Marine Board (known as the 'Marine Board of Queensland' and constituted under the legislative regime that existed prior to the *Transport Operations (Marine Safety) Act 1994*), had considerable administrative powers including the issue of marine certificates of competency and the licensing of pilots.

The charter of the newly-formed Marine Board in the 1990s became 'To promote partnerships between government and the marine community to develop and maintain a safe and effective marine industry in Queensland'.

As well as giving information and advice to the Minister about marine safety issues and the referral of marine incidents to a board of inquiry, the Board could also give advice to the Chief Executive on proposals to prepare standards, on draft standards and on marine safety issues, including exemptions either on its own initiative or, if asked, by the Minister or Chief Executive Officer.

From 1998 the Marine Board broke with the tradition of holding meetings only in Brisbane and commenced meeting in regional maritime centres ranging from Thursday Island in the north to the Gold Coast in the south, including Port Douglas, Cairns, Innisfail, Townsville,

Hamilton Island, Airlie Beach, Mackay, Gladstone, Hervey Bay, Mooloolaba, and Brisbane. Board meetings were attended by the General Manager and key Maritime Safety Queensland personnel, and were supplemented by industry forums. Over the years this interaction led to building up of relationships and team work between industry and government.

Maritime Safety Queensland is now committed to maintaining and strengthening these relationships.

In recent years the Board provided significant advice and support on numerous important maritime issues including:

- compulsory wearing of life jackets
- implementation of Record of Practical Experience at Sea (ROPES)
- marine safety policy and legislation proposals
- ship-sourced sewage proposals
- national towage and salvage capacity
- promotion of careers in the maritime industry with a strong focus on marine training and crew skills and competencies
- registered training organisation handbook
- review into maritime legislation
- safety radio provision on the Queensland coast
- the development of state and national marine safety standards
- surveyor's liability insurance
- the Boatsafe project
- the findings of the Board of Inquiry into the Sun Paradise collision with Pride of Airlie leading to the development of the Safety Culture Program.

In May 2009 the Government considered the contents of *Government Response to Part B Report – Brokering Balance: A Public Interest Map for Queensland Government Bodies – An Independent Review of Queensland Government Boards, Committees and Statutory Authorities* and the 210 recommendations presented. The report achieved the Government's reform aim and recommended 103 bodies be abolished including the Marine Board. Full details of the report can be found at <http://www.premiers.qld.gov.au/government/boards-committees/review.aspx>.



Col McKenzie.
Chairman 2006-2009.
Diving and marine tourism industries.



Maria Dwyer.
Marine insurance industry.



Liz Hay.
Ship building and repair industries.



Mick Carr.
Maritime workers and unions.



Mike Bartlett.
Chairman 1999-2006.
Marine, transport, port and marina industries.



Robin Hansen.
Fishing Industry.

History of tidal recording and prediction in Queensland

The use of waterways for industry and recreation has always been an important part of the Queensland lifestyle.

Tidal heights have been noted and recorded since the early days of settlement, when people realised that there was sometimes insufficient depth of water to permit ships to enter the ports along the Queensland coastline. To gain the most benefit from our waterways, it was important to know the pattern of the tides.

By 1878, six gauges were installed between Brisbane and Lytton. These were primitive devices, piles driven into the ground and marked at the level of the high water line of spring tides. From the recording of tides against these markings, the Portmaster's report of 1878 contained information about the mean tide level at the Brisbane Bar for each month between September 1877 and 1878.

Beginning in the latter part of the nineteenth century, the first significant work in tidal prediction was undertaken. The Engineer in Chief of the Harbours and Rivers Department from 1875 to 1889, William Nisbet, established permanent tide gauges in the Brisbane River relating to river works and dredging projects.

In 1890 work undertaken by Marine Surveyor, Edward Cullen, was successful enough to produce an accurate tide table. In March 1891, tables were issued containing the predicted heights and times of high water for the remainder of that year. From the continuance of this work, Cullen produced more tables in 1892 that gave both the times and heights of high and low water for the whole year. Documents verified the accuracy of these predictions for the purposes of navigation, and were well received by the public and business involved in shipping.

With the success of the tidal recording program at Brisbane, special instructions were issued by the Department of Ports and Harbours in January 1892 for all offices located along the coastline to observe and record the tides in a similar manner to that being done in Brisbane. With the records being uniform in their observation and noting, it provided a reliable data bank of information. When these were systematically analysed, they were made available to the public.

No further advance in technology occurred world wide until 1976. This coincided with the access to computer facilities and graphics digitising system that greatly boosted the capacity to convert the state's tidal records from analogue to digital form. Additionally, it meant that all the records were stored digitally and were able to be retrieved rapidly and accurately processed.

In 1982 the observing of tides altered dramatically. The 'Tidata', a precise digital tide recording and telemetry system, was designed and constructed by the Department of Harbours and Marine staff based in Brisbane. The first installation was on a beacon near Bishop Island, from which readings were transmitted to the Lytton Hill signal station for display, transmission to users, and recording.



Above: Tide recorder, Hay Point. Below: Close up of tide recorder.



History



Left: This Maritime Museum Gauge was original installed as the Port Office gauge in 1927 and is now a working exhibit at the Maritime Mueum.

A gauge similar to this was operating at the Brisbane Pile Light from 1884 and is typical example of the automatic tide recorder using paper charts to record the tidal movements that were transferred from a float in a stilling well by system of gears and pulleys to the chart pen, used at most Queensland ports until the 1980s when they were replaced by digital tide recorders.



Above: Old pile light c.1910.
Left: New digital radar tide gauge, Hay Point.

In addition to the recording and storage of the state's tidal data, the preparation of the annual official tide tables for Queensland continued to be a function of the state government. From the first edition of the tide tables which contained predictions for Brisbane only, the tide tables have now expanded to include tidal predictions for 30 Queensland ports and tidal information for over 200 secondary places.

Maritime Safety Queensland, Queensland port authorities and the Department of Environment and Resource Management now jointly operate the tidal gauge network around the Queensland coast. The network records the movement of the tide and storm surge events.

The photos of the tide gauges at Hay point show typical installation used today. The gauges record the tide movements by bouncing a radar beam off the sea surface. The tidal recordings are stored in a data logger at the gauge and this data is transmitted to VTS centre for real time display.