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# TECHNICAL REPORT

INCLUDING MANUFACTURING AND ENVIRONMENT UPDATES

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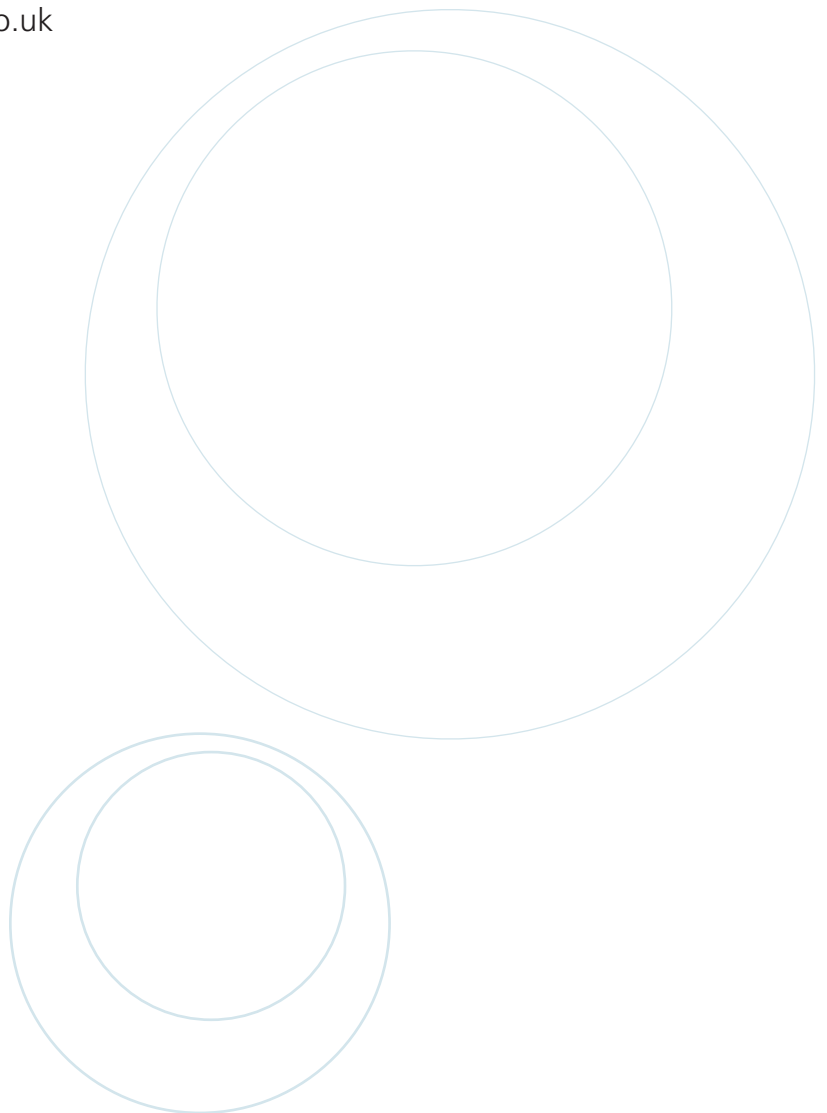
## CONTACTS

David Elson  
Technical Director  
T: 01784 223636  
E: [delson@britishmarine.co.uk](mailto:delson@britishmarine.co.uk)

Nigel Saw  
Technical Manager  
T: 01784 223635  
E: [nsaw@britishmarine.co.uk](mailto:nsaw@britishmarine.co.uk)

Adrian Waddams  
Manufacturing Manager  
T: 01784 223727  
E: [awaddams@britishmarine.co.uk](mailto:awaddams@britishmarine.co.uk)

Brian Clark  
Environmental & External Relations Manager  
T: 01784 223644  
E: [bclark@britishmarine.co.uk](mailto:bclark@britishmarine.co.uk)



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# WELCOME TO THE 102ND TECHNICAL REPORT

It has been a busy time for the Technical, Manufacturing and Environment Departments. The revision of the Recreational Craft Directive is ongoing and, working with our External Relations team, we are liaising with Malcolm Harbour, the British MEP who has been appointed as the rapporteur for the revision process. In addition there have been a number of discussions surrounding the retrospective application of harmonised standards and we are working closely with ICOMIA to ensure industry interests are presented to the decision makers.

The concerns about the emission requirements of MARPOL Annex VI continue and we have presented oral and written evidence to the Transport Select Committee to raise the issues at the highest level. The NOx Working group continues to develop the design study in collaboration with catalyst manufacturers, engine manufacturers, shipyards and representatives from Classification Societies and Flag Administration.

Representatives from the BMF also attended the Marine Equipment Trade Show where a large number of international meetings took place behind the scenes. In addition to the ICOMIA Technical and Environment Committee meetings and the ICOMIA Hybrid Conference there were over 10 ISO Working Group meetings discussing the latest developments on a number of Small Craft and Large Yacht ISO Standards.

On the manufacturing side we are delighted to announce that Adrian Waddams has been approached by the Transport KTN to act as their Marine Specialist Advisor. This role is an excellent opportunity to ensure that our members' interests are placed at the heart of the Government's technology agencies. Adrian will be working with the Transport KTN team on a part-time secondment from the BMF and will otherwise remain as our Manufacturing Manager. We also continue to develop the supply chain initiative with planning underway for an event in the spring of 2012 to bring the UK supply chain together within a Meet the Buyer format.

Environmentally work is continuing concerning the decommissioning of GRP craft and an EU study has recently been completed which provides recommendations to the Commission. Also we are liaising with UK stakeholders on the development of a recycling and sustainability partnership organised by Composite UK. We also continue to work on limiting the impact of the establishment of Marine Conservation Zones, the issues surrounding the Habitats and Birds Directives and the development of the ISO Standard on Yacht Harbours.

We hope you find this report instructive and, as always, please do not hesitate to contact any member of the team with any comments, questions or issues.

# TECHNICAL REPORT #102

## RECREATIONAL CRAFT DIRECTIVE

### RCD Revision

The Department for Business, Innovation and Skills has launched a consultation to seek views on the European Commission's Proposal for a Directive on Recreational Craft and Personal Watercraft. The consultation can be found at:

<http://www.bis.gov.uk/consultations/consultation-document-proposal-for-a-directive-on-recreational-craft-and-personal-watercraft?cat=open>

The consultation runs until 11th February 2012 and the BMF is working alongside Business Department officials to feed in the industry's views and needs at a European level.

The UK Government broadly supports the revision of the Directive as it believes that the Proposal contains a number of improvements on the current directive. However, it has indicated a number of areas where it believes there may be difficulties. These are:

- The proposed reduction in exhaust emission targets
- Changes to Post Construction Assessment (PCA) and this only being available to private importers
- The definition given for **"watercraft built for own use"**
- The definition given for **"partly completed watercraft"**
- The proposal to bring large canoes and kayaks within the scope of the Directive

The BMF is collating an industry response to this consultation and will keep members informed on its progress and outcome.

### British MEP appointed rapporteur

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The British conservative Malcolm Harbour was appointed as rapporteur in the European Parliament to deal with the revision of the EU Recreational Craft Directive. Mr Harbour is a longstanding member of the European Parliament and currently serves as Chairman of the Committee on Internal Market. He has a background in mechanical sciences and engineering. The first exchange of views on the text occurred in November/December 2011, the draft report should be presented in January/February 2012, and the adoption of the text should happen by July 2012. Once adopted, there will be a 2 year period for the industry to adapt to the new requirements, so the earliest entry into force would be autumn 2014.

### Clarification of Applicability of the RCD

The information provided below is an extract from a presentation given by the European Commission service at the meeting of surveillance authorities (ADCO) Warsaw during November 2011:

- Free circulation of goods is allowed only in the EU/EEA countries;
- When a customs union exists the free circulation is allowed if the signatory country transposed the *acquis* (directive) for the concerned product and the EU accepted it;
- When a mutual recognition agreement exists only the products concerned could circulate freely between EU and the signatory country

#### *Gibraltar*

- Within the EU by virtue of Article 355.3 of the Treaty
- Excluded from the common customs territory under the UK's Act of Accession (Article 1 of Regulation No 1496/68 and Article 29 of that Act and in Annex I, Section I, point 4)
- Findings of the European Court of Justice, case C-30/01 (points 57-59)
- Considered as third country for import of recreational craft

#### *Channel Islands and Isle of Man*

- Neither EU Member State nor associate member
- Special relationship with the European Union, set out in Protocol 3 to the UK's Act of Accession
- Considered as third country for import of recreational craft

#### **European microstates**

##### *Monaco*

- Monaco
- Not part of the EU but integral part of the EU customs territory (Art.3.2 (a) of Customs Code - TAXUD/458/2004 – REV 4)
- Agreement regarding the application of Community legislation to pharmaceuticals, cosmetic products and medical devices
- Considered as third country for import of recreational craft

##### *San Marino*

- Not part of the EU
- Framework of cooperation outlined in Aide Memoire
- Co-operation and Customs Union Agreement signed in 1991
- Considered as third country for import of recreational craft

##### *Andorra*

- Not part of the EU
- Framework of cooperation outlined in Agreement between the Community and the Andorra signed in 1990
- Co-operation and Customs Union Agreement entering in force 1991
- Considered as third country for import of recreational craft

#### **Overseas departments of Member States**

- The provisions of the Treaty shall apply to Guadeloupe, French Guiana, Martinique, Réunion, Saint-Barthélemy, Saint-Martin, the Azores, Madeira and the Canary Islands until specific measures are adopted by the Council and the EP according to Art.349
- Considered as EU for import of recreational craft



### Overseas countries and territories

- Non-European countries and territories listed in Annex II of TFEU
- Neither part of the EU, nor subject to EU law
- Relations regulated by Council Decision 2001/822/EC on the association of the OCTs with the European Community
- Association Agreement has the basis in Article 198 of the Treaty, namely to promote the economic and social development of the OCTs and to establish close economic relations
- In particular, some products originating in the OCTs and imported into the EU may not be subject to import duties or quantitative restrictions
- Considered as third country for import of recreational craft

### Retrospective Application of Harmonised Standards

An important aspect under discussion during the revision process is the potential retrospective application of harmonised standards. The BMF have been working closely with ICOMIA and the information below is reproduced with their kind permission.

The following is summarised from an ICOMIA presentation to the EC:

### Impact of changes in harmonised standards to EC type-certificates

The current trend is to revise standards due to experience gained during their practical application/tidying up; further technical development; demographic evolution, or preparing for revision of the RCD with changed essential requirements. When a harmonised standard changes due to a revision which is not related to a shortcoming of the standard, the industry and Notified Bodies currently have an understanding that this does not affect existing type-certificates or the presumption of conformity. This has been called into question by a statement in the minutes of the last standing committee meeting: "... the manufacturer has the obligation to take into account the latest version of the standard and a Notified Body has to reassess the EC type examination certificate against the new version of the standard".

Within our industry the range of production methods varies from full industrial application to artisan craftsmanship (small series production building 1 – 3 boats per year). Existing models use the harmonised standards applicable at the time of design. The product complies with the requirements of the directive at the time it is first placed on the market benefiting from the presumption of conformity. Tooling and structural layout is predominantly fixed for the duration of the model life which can be 10 years or more.

Requiring manufacturers to renew/update certificates on each change of a harmonised standard is perceived as unfair as it is only understandable with a full knowledge of the new approach mechanisms. It might put alternative conformity assessment procedures into a better light and reduce the attractiveness of using harmonised standards.

Industry is asking for a standard and transparent procedure applicable for all stakeholders published in a formal statement by DG ENT Unit 4 similar to statements that have been issued by other DGs for other directives. This would facilitate one or a combination of the following options:

#### Ideal case:

Old standard declared obsolescent maintaining presumption of conformity for existing designs.

#### 2nd ideal:

Assessment of ongoing revisions/due publications by CEN/ European Commission (BT/WG69): standards that will critically affect existing designs or downgrade them require a significant extension of presumption of conformity.

#### 3rd ideal:

Allowing a smooth transition by a default transitional period for the presumption of conformity over 3 to 5 years.

We also reproduce below an extract from the letter to the chair of the recent surveillance body meeting (ADCO) meeting in Warsaw:

*Dear Mr Chmielewski,*

*Re: Retrospective Application of Harmonised Standards*

*Scenario/summary: Changes to harmonised standard due to a revision which is not related to a shortcoming of the standard (no safety issue, no non-compliance with Essential Requirements of the directive). What are the consequences for products that were certified to the old version of a harmonised standard and remain in production?*

*Industry and NBs understood a revision of a standard under the above scenario does not affect existing type-certificates and products remaining in production. There was a common interpretation that even the presumption of conformity is not affected (with the European Commission attending all RSG meetings) – for reference see discussions in RSG in context with early versions of Recommendation For Use # 75.*

*However, strict interpretation of the New Approach has brought this current interpretation into question which will have serious implications.*

*Since the issue is linked to CEN procedures and dates of cessation of presumption of conformity published in the OJEU, the CEN small craft committee CEN/BT WG 69 and further consideration in CEN/European Commission are envisaged to find a workable approach.*

*Best Regards  
Udo Kleinitz  
Technical Manager  
ICOMIA*

The Technical Department have representation on all the committees and groups dealing with the Recreational Craft Directive, and are able to comment and report on the issues as they develop. For further information or to feedback comment contact Nigel by e-mail [nsaw@britishmarine.co.uk](mailto:nsaw@britishmarine.co.uk)

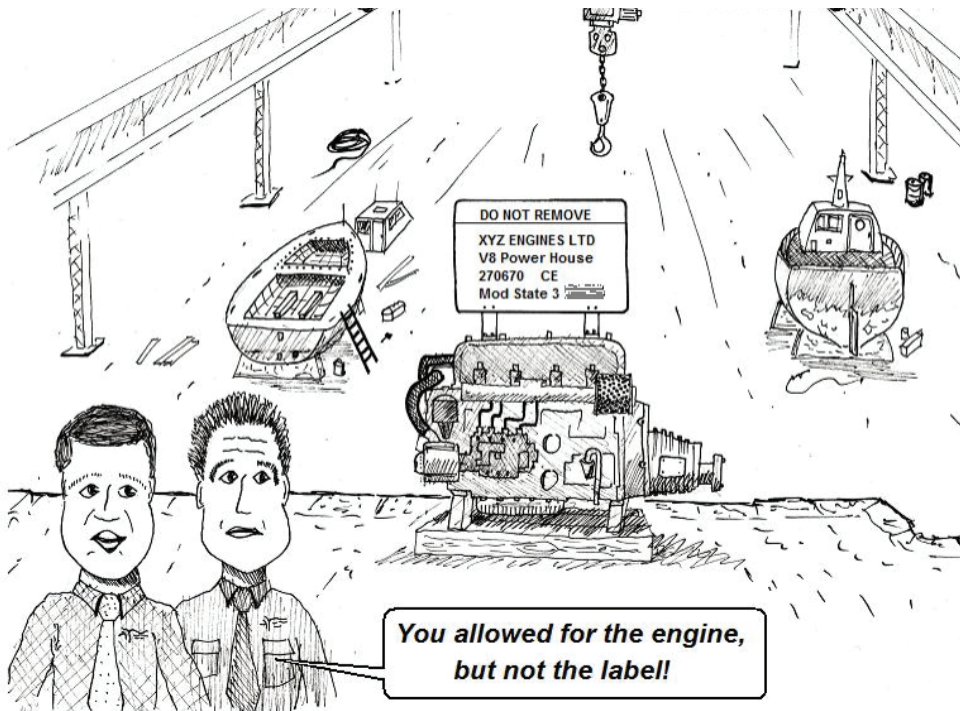
## Awareness Raising – The Cartoon Series

This issue's cartoons highlight the requirements of RCD Annex 1B and C dealing with exhaust emissions and the requirement for engine identification.

### Essential requirement Annex 1.B .1 Engine identification

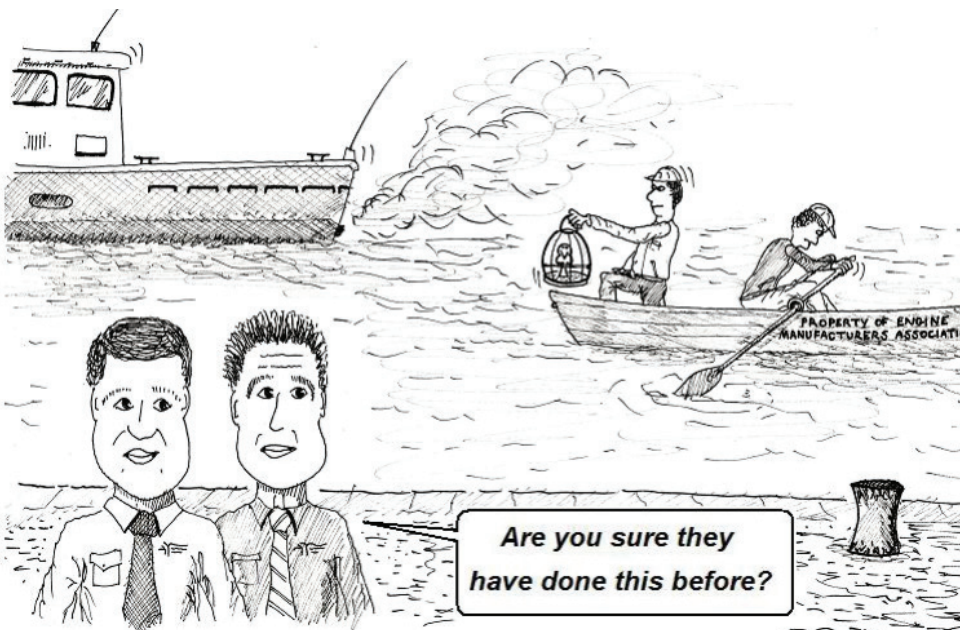
Each engine shall be clearly marked with the following information:

- Engine manufacturer's trademark or trade-name
- Engine type, engine family, if applicable
- A unique engine identification number
- CE marking, if required under Article 10



### Essential requirement Annex 1.B.2 Exhaust Emission Requirements

Propulsion engines shall be designed, constructed and assembled so that when correctly installed and in normal use, emissions shall not exceed the limit values



## BIO-FUEL AND ITS ISSUES

The information below is an extract from a presentation given to the Canal Boat Builders at their AGM November 2011:

Sulphur free gas oil has been mandatory in inland waters since the beginning of 2011. With this fuel came the possibility that many companies would receive sulphur free gas oil by way of being supplied with road fuel with marker dye identifying it as 'red diesel'. This road fuel supplied as the European Standard EN 590 can contain up to 7% bio fuel.

The background to the supply of this fuel is from the Fuel Quality Directive 2009/30/EC which gave technical specification for diesel and gas oils allowed to be distributed for 'Inland waterway vessels' and 'non-road mobile machinery' which includes 'Recreational craft when not at sea' but excludes heating or stationary equipment. The sulphur content of fuel is not to exceed 10mg/kg (20mg/kg at point of sale). The term 'not at sea' has been defined as MCA category A and B waters, category C lakes and Lochs with significant wave height not exceeding 1.2m.

We now have the Renewable Energy Directive 2009/28/EC which requires member states to ensure 10% of fuel used in transport is from renewable sources in 2020 (excludes air transport). Wholly renewable fuel is 'FAME' (Fatty Acid Methyl Ester, commonly known as 'Bio fuel').

### **The concerns over the inclusion of FAME are:-**

- Water contamination
- Microbiological contamination (diesel bug)
- Solvent properties of bio-fuel
- Cold filter plugging point (waxing)
- Lubrication properties
- Seal and hose compatibility
- Copper pick up
- Fuel stability
- Loss of power

The overriding concern being water contamination and microbiological contamination (the diesel bug). Fuel containing FAME (bio-diesel) is hygroscopic and can accumulate high quantities of water. With this comes the possibility of microbiological contamination that grows at the interface between the water and fuel. It can block filters, pipes, injectors. Statistics from River Canal Rescue indicate an increase in the number of callouts to fuel injection equipment failure and diesel contamination this year. See [www.rivercanalrescue.blogspot.com](http://www.rivercanalrescue.blogspot.com) for fuller details.

### **The oil industry advice given to their distributors is:-**

- Good housekeeping
- Turn over fuel
- Monitor fuel
- Inspect filters
- Drain water regularly

### **Treatments**

There are many products available to treat the fuel, absorb or remove the water and to treat and eradicate the 'bug':-

- Biocide treatments
- Diesel additives
- Water eliminators
- Fuel stabiliser
- Fuel polishing
- Magnetic De Bug
- Clean and flush tanks

The type of fuel available for inland use may vary and confirmation of the specification and FAME content should be sought before purchase, the most common products will be:- EN 590:2009 Road fuel less 10ppm sulphur up to 7% bio-diesel, with marker dye also sold as 'Red Diesel' BS 2869:2010 Class A2 less than 10ppm with up to 7% bio-diesel, may also be available de minimus bio-diesel (fame free).

## MARPOL ANNEX VI

### **Transport Select Committee**

The House of Commons Transport Select Committee held a short Inquiry during September and October into the implementation of IMO (MARPOL Annex VI) and EU regulations on sulphur emissions by ships. The main focus of the Inquiry was on how these regulations will affect the shipping and cruise industries in the UK.

The Committee invited written evidence from industry and other interested parties, as well as the European Commission (EC) and the Department for Transport. Following this call for evidence, the Committee held two oral evidence sessions, in which they questioned a number of stakeholders on the key issues. Alongside the BMF, other organisations giving evidence were Maritime UK, the European Cruise Council and the Exhaust Gas Cleaning Systems Association. The Committee also questioned an EC representative and the Minister for Shipping, Mike Penning MP.

Though the sulphur emission requirements do not affect the leisure marine industry, the BMF raised the issue of NOx emission reductions with the Committee, in both a written submission and in person at the first oral evidence session. The BMF put forward the case for an extension to the timeframe for introducing the MARPOL Annex VI regulations, and called for more assistance from the UK Government to industry to help it develop the necessary compliance technology and to ensure adequate quantities of compliant fuel are available.

The Committee is currently reviewing the evidence it received. It is then expected that it will issue a report on its findings, which will set out the Committee's position on the matter, along with recommendations for the UK Government and the industries affected. It is common for Government to issue a response to a select committee report. There is no current timeframe on when this report will be published, but the BMF will keep members updated.



## ICOMIA NOx Working Group

The ICOMIA NOx Working Group, chaired by David Elson, held a well attended meeting during METS. The meeting opened with an update of recent activities:

### Chairman/Secretariat update:

- Steps in design study:
  - Meetings have been held with catalyst manufacturers Johnson Matthey, H + H and Soottech.
  - A note on the status of current technology was published in August.
  - A brainstorming session was held in September at the PSP Southampton Boat Show.
  - Comments and concerns have been submitted to IMO MEPC and BLG correspondence groups.

### IMO MEPC:

*Session 62 was held from July 11th to 15th and addressed the review outlined in Regulation 13.10 of MARPOL Annex VI. A Correspondence Group was established and comments provided draw attention to the ICOMIA design study stating that results will be available early in 2012.*

In parallel comments have been submitted to the BLG Correspondence Group on Review of Relevant Non-mandatory Instruments as a Consequence of the amended MARPOL Annex VI and the NOx Technical Code. This group is specifically concerned with guidelines for replacement engines not required to meet the Tier III limit.

### Next steps:

The MEPC Correspondence Group will progress to the second round of questions:

- To provide available information regarding progress of individual manufacturers towards bringing Tier III NOx technologies to market.
- To inform the group on whether Tier III engine or control systems are currently installed on or under development for a recreational/passenger vessel greater than 24metres in length
- To provide additional technical data relative to the similarities and differences of applying Tier III NOx technology to recreational versus commercial vessels greater than 24 metres in length.

The aims of the ICOMIA Working Group are to conclude design studies on vessels > 24m identifying compliance issues and investigate further the issues as to whether recreational charter vessels < 24m will have to comply.

At the METS meeting, the three attending SCR manufacturers presented the latest developments in their research. H+H explained projects carried out for Lake Constance emissions rule compliance where the system used direct injection of ammonia gas rather than urea which provides some reduction in space requirements. Soottech presented an actual business case study prepared for two most commonly used engine models which two yards used for their design studies. Johnson Matthey provided a special case distinction showing the SCR size as a function of fuel quality and fuel sulphur content. The attending Shipyard representatives (Heesen, Sanlorenzo, Moonen, Ferretti, Fairline)

showed the implementation of an SCR system in their current designs based on today's technology requiring, in most of the cases, a significant change of design.

It was agreed that there is an urgent need to reduce SCR and component size. This is cross-linked with the need to increase engine backpressure but probably also to specify a maximum allowed content of sulphur in fuel. MTU will forward information on future maximum backpressure increase. The implementation of SCR in existing designs will be impractical and this should be one of the main messages in the Large Yacht industry's reply to IMO's questionnaire.

### Situation for Recreational Charter Vessels < 24m

Regulation 13.5.2 of MARPOL Annex VI provides an exemption for a:

*"marine diesel engine installed on a ship with a length (L)[...] less than 24 metres when it has been specifically designed, and is used solely, for recreational purposes."*

Importantly the term "recreational purposes" is not defined by IMO.

There is, of course, a definition of recreational craft within the RCD. Article 1.3 states that, for the purposes of the Directive, the following definition shall apply:

*"recreational craft": any boat of any type intended for sports and leisure purposes of hull length from 2.5m to 24m, measured according to the harmonised standard, regardless of the means of propulsion; the fact that the same boat could be used for charter or for recreational boating training shall not prevent it being covered by this Directive when it is placed on the Community market for recreational purposes.*

The Application Guide to the Amended RCD expands on this definition:

*"It is specified that chartered, i.e. hired, recreational craft are covered by the Directive, as are recreational craft used for recreational boating training. In both cases, the activity is not a commercial passenger transport activity but one for sports or leisure purposes, even if the craft is hired with crew."*

*"The RCD also includes Article 2(2) which states:*

*The provisions of this Directive shall not prevent Member States from adopting, in compliance with the Treaty, provisions concerning navigation on certain waters for the purpose of protection of the environment, the fabric of waterways, and ensuring safety of waterways, providing that this does not require modification to craft conforming to this Directive."*

It seems from the definitions within the RCD that Chartered Recreational Craft fall within the directive and that Member States cannot require modification to craft conforming to the RCD. In addition the European Commission Enterprise and Industry Directorate-General provided a 'Note to Members of the Expert Group on Recreational Craft' with the subject: Application of the MARPOL Convention in the EU. In the conclusion of this note it was stated that:

*"After consulting its legal service, the Commission services would like to inform the MS authorities and stakeholders of the following: From the above legal framework it can be deduced that Member States cannot set rules imposing the MARPOL Convention NOx emission limits as long as such limits dictate the technical modification of those recreational crafts whose NOx emissions comply with the emission limits set in the Directive. It would be incompatible with the Treaties if any of the 22 Member States which are parties to the MARPOL Convention were to prohibit the use of the recreational crafts in their waters if these crafts comply with the NOx emission limits set in the Directive."*

There is a difference of opinion within the UK because we have the Merchant Shipping (Vessels in Commercial Use for Sport or Pleasure) Regulations 1998 which provides a pleasure vessel definition:

**"pleasure vessel"** means–

(a) any vessel which at the time it is being used is:

(i)(aa) in the case of a vessel wholly owned by an individual or individuals, used only for the sport or pleasure of the owner or the immediate family or friends of the owner; or...

The MCA consider any vessel that is not a **"pleasure vessel"** to be a "commercial vessel". So the MCA interpretation is that if a vessel is not a **"Pleasure Vessel"** it is also not a **"Recreational Craft"**.

So the situation today is that in the UK Charter Yachts under 24m will have to comply with MARPOL Annex VI.

Discussions and lobbying are ongoing and members will be informed of any developments.

## REVIEW OF 17TH EDITION OF THE WIRING REGULATIONS (BS 7671:2008) ON SPECIAL LOCATIONS

Among the special locations introduced in the 17th edition were requirements for Marinas and similar locations contained in section 709 of BS 7671.

The risks specifically associated with craft supplied from marinas include:

- i. open circuit faults of the PEN conductor of PME supplies raising the potential to true earth of all metalwork (including that of the craft, if connected) to dangerous levels;
- ii. inability to establish an equipotential zone external to the craft;
- iii. possible loss of earthing due to long supply cable runs, connecting devices exposed to weather and flexible cord connections liable to mechanical damage.

Particular requirements to reduce the above risks include:

- i. prohibition of a TN-C-S system for the supply to a boat (Regulation 709.411.4);
- ii. additional protection by 30mA RCDs in both the craft and the marina installation (Regulation 709.531.2);
- iii. outlets to be installed at not less than 1m above the highest water level. (Regulation 709.553.1.13 does give certain exceptions.)

Note: Protective multiple earthing (PME) has been almost universally adopted by distributors in the UK as an effective and reliable method of providing their customers with an earth connection. Such a supply system is described in BS 7671 as TN-C-S.

Whilst a protective multiple earthing terminal provides an effective and reliable facility for the majority of installations, under certain supply system fault conditions (external to the installation) a potential can develop between the conductive parts connected to the PME earth terminal and the general mass of Earth.

The potential difference between true Earth and the PME earth terminal is of importance when:

- i. body contact resistance is low (little clothing, damp/wet conditions), and/or
- ii. there is relatively good contact with true Earth.

Contact with Earth is always possible outside a building and, if exposed-conductive parts and/or extraneous conductive-parts connected to the PME earth terminal are accessible outside the building, people may be subjected to a voltage difference appearing between these parts and Earth. For this reason Regulation 9(4) of the Electricity Safety, Quality and Continuity Regulations 2002 (as amended) does not allow a combined neutral and protective conductor to be connected to any metalwork in a caravan or boat.

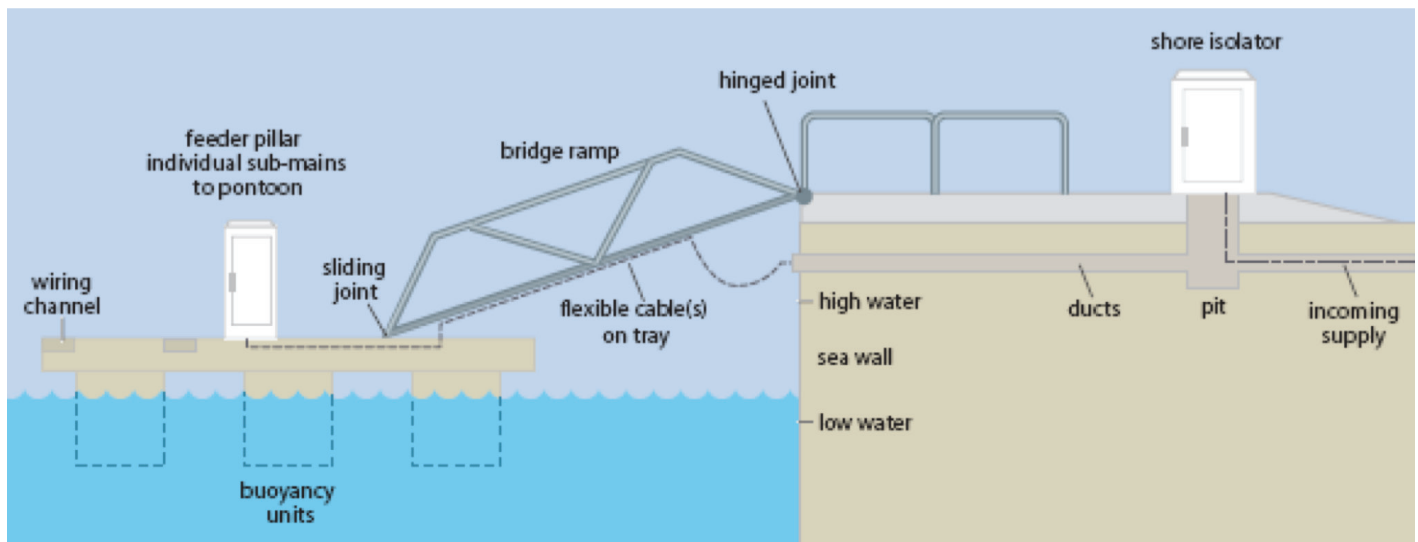
Electrical equipment to be installed on or above jetties, wharves, piers or pontoons must be selected according to the external influences which may be present. In the marina environment, particularly at jetties, pontoons etc., consideration must also be given to the possible presence of corrosive or polluting substances. Equipment should be located to avoid any foreseeable impact, be provided with local or general mechanical protection and have a degree of protection for external mechanical impact.

Regulation 709.531.2 requires that socket-outlets shall be protected individually by an RCD having the characteristics specified in Regulation 415.1.1. Devices selected shall disconnect all poles, including the neutral. Final circuits intended for fixed connection for the supply to houseboats shall be protected individually by an RCD having the characteristics specified in Regulation 415.1.1. The device selected shall disconnect all poles, including the neutral.

Regulation 709.533 has requirements for protection against overcurrent. Each socket-outlet shall be protected by an individual overcurrent protective device, in accordance with the requirements of Chapter 43.

A fixed connection for supply to a houseboat shall be protected individually by an overcurrent protective device, in accordance with the requirements of Chapter 43.

## Typical wiring arrangement from shore to pontoon



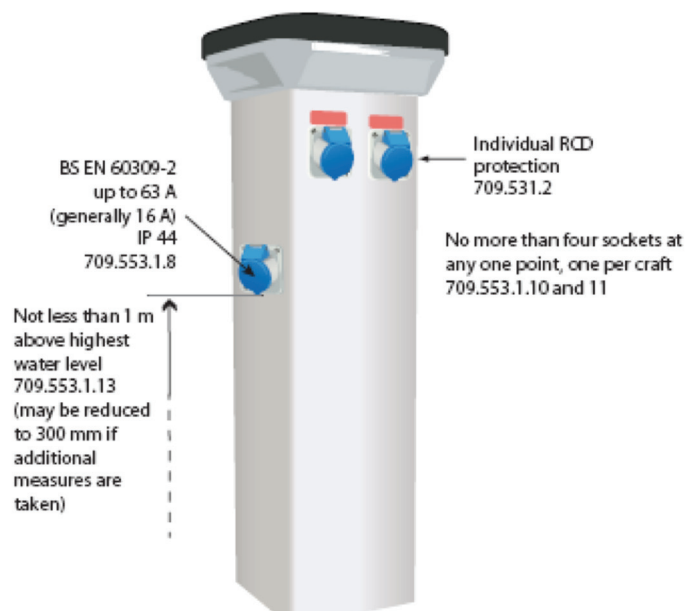
Cables must be selected and installed so that mechanical damage due to tidal and other movement of floating structures is prevented.

Regulation 709.521.1.4 recognises that the following wiring systems are suitable for distribution circuits of marinas:

- i. Underground cables
- ii. Overhead cables or overhead insulated conductors
- iii. Cables with copper conductors and thermoplastic or elastomeric insulation and sheath installed within an appropriate cable management system taking into account external influences such as movement, impact, corrosion and ambient temperature
- iv. Mineral-insulated cables with a PVC protective covering
- v. Cables with armouring and serving of thermoplastic or elastomeric material
- vi. Other cables and materials that are no less suitable than those listed above.

### Distribution boards, feeder pillars and socket outlets

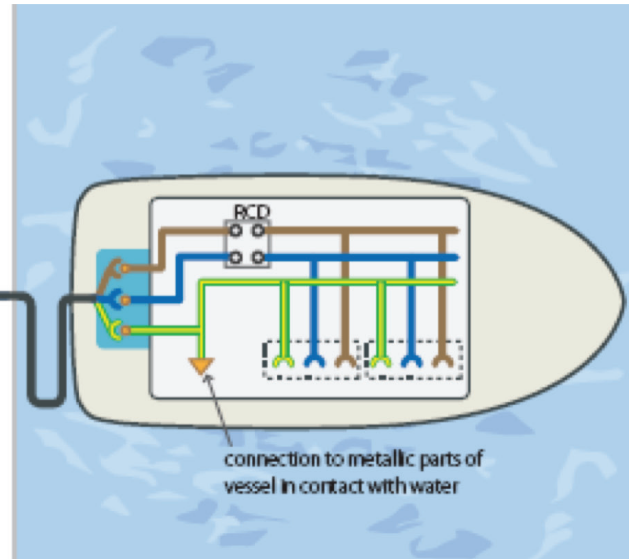
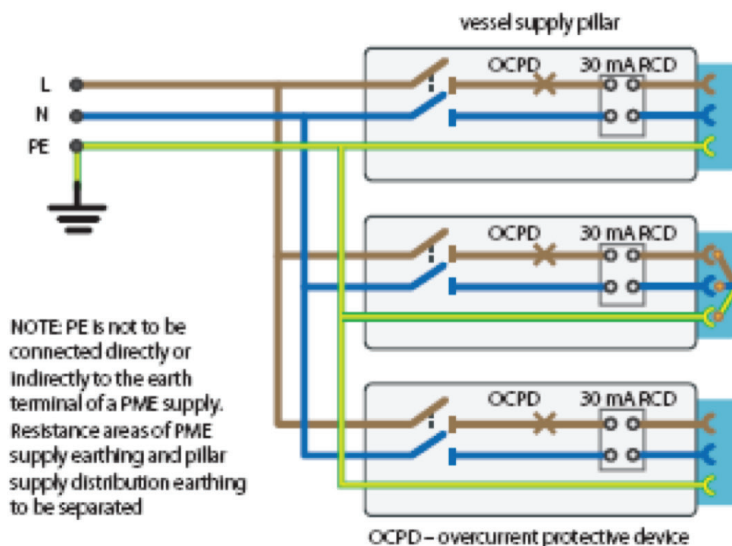
Socket outlets when mounted on floating installations or jetties should be fixed above the walkway and preferably not less than 1m above the highest water level. This height may be reduced to 300mm if appropriate additional measures are taken to protect against the effects of splashing (IPX4), but care should be taken to avoid creating a low-level obstacle which may cause risk of tripping on the walkway. When mounted on fixed jetties they should be mounted not less than 1m above the highest water level.



There have also been reports of increased rate of depletion of the sacrificial anodes of recreational craft which are connected on a longer-term basis to shore supplies, which is believed by some observers to be associated with the connection of the recreational crafts protective earth terminal (to which immersed components and sacrificial anodes are bonded) to the shore supply earth in a marina or similar location.

In Annex A of the harmonised document 60364-7-709 are examples of methods of obtaining a supply in a marina and recognises the use of an isolating transformer to prevent galvanic currents circulating between the hull of the vessel and the metallic parts on the shore side. The current standard for isolating transformers is BS EN 61558.

It is important to point out that all equipment must comply with the relevant standard.



Equipment installed on board a small vessel or recreational craft does not come under the control of the wiring regulations (BS 7671) and would be required to comply with the appropriate standard.

It is important to be aware that this article only gives a very brief overview of electrical installations in marinas and similar locations. For more information refer to section 709 of BS 7671:2008 incorporating Amendment 1.

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## COMMERCIAL FISHING VESSELS

There have been a few cases in recent years of new leisure craft being purchased by fishermen intending to use them for commercial fishing. What is not known by either the buyer or seller in such cases is that there are rules governing the construction and registration of UK fishing vessels.

The construction of new fishing vessels under 24m RL must comply with the latest release of the Seafish Construction Standards and be certified by Seafish. New fishing vessels must also comply with MSN1813(F) and MSN1770(F), as applicable. Without the required certification, a new vessel will be refused acceptance onto the UK fishing vessel register.

Vessels built before 16th July 2007 may be considered for registration, but, in such cases, the RSS or the MCA will request a registration inspection be conducted by Seafish before a final decision can be made.

For further details please visit [www.seafish.org/boatbuilders](http://www.seafish.org/boatbuilders)

## INFORMATION FOR GAS OPERATIVES WHO WORK ON BOILERS AND SPACE HEATERS

All Gas Safe Registered engineers who have been previously assessed on work categories of boilers (CEN1 or CENWAT) and space heaters (HTR1) and wish to continue working on these categories after the 1 April 2012 will need to be assessed on Combustion Analysis (CPA1) before this date.

The Gas Safe Register and EU Skills (Energy and Utility Skills, the sector skills body responsible for setting and maintaining competency requirements for the gas industry), have been communicating directly with gas safe registered engineers since the start of 2010, in the form of a consultation and subsequently informed engineers of the changes to assessment needed to work on the above systems.

### CPA1 Course and Assessment

The Combustion Performance Analysis of Domestic Appliances course and assessment comprises of:

- Commissioning, servicing and testing appliances requirements when new components have been installed
- The Gas Industry Unsafe Situation category given to gas appliances that do not reach a satisfactory combustion performance
- Allowances made for gas cooker carbon monoxide (CO) levels
- Comprehension of action levels for gas appliances
- Remedial action required if carbon monoxide (CO)/carbon dioxide (CO<sub>2</sub>) ratio levels continue to be above suitable performance levels after adjustment

### Are your operatives affected?

Your gas safe registered engineers will only need to be assessed if they have the following codes on the reverse side of their gas safe register card: CEN1, CENWAT,

HTR1 and they wish to continue to work on these systems after 1st April 2012.



The operative will need to be assessed on Combustion Analysis (CPA1) 20 days before the above date to continue to work on these systems. The operative will need to attend a half day training course and assessment. The cost of the training is in the region of £120 - £170 +VAT depending on training provider.

The BMF will provide a training grant to all BMF member companies who are affected irrespective of size and number of employees, please see attached claim form. The BMF have a list of training providers who specialise in LPG gas on boats, but this assessment is not boat specific so can be carried out by any training provider who is licensed to carry out ACS Gas Assessment.

BMF List of training Providers:

[http://www.britishmarine.co.uk/what\\_we\\_do/training/lpg\\_training\\_and\\_assessment/lpg\\_training\\_providers.aspx](http://www.britishmarine.co.uk/what_we_do/training/lpg_training_and_assessment/lpg_training_providers.aspx)

EU Skills List of training providers:

<http://www.euskills.co.uk/gas/acs-centres>

The BMF are working with a provider in Coventry to secure a bulk booking discount, if you wish to take advantage of this, please contact Dee Williams at your earliest convenience:  
e-mail [dwilliams@britishmarine.co.uk](mailto:dwilliams@britishmarine.co.uk)

#### Further help and information:

ACS Combustion Performance Analysis Assessment:

<http://www.euskills.co.uk/download.php?id=1380>

Changes to key criteria for people working on boilers and space heaters:

<http://www.euskills.co.uk/home/news.php?id=663>

## CONSULTATIONS

### Red Tape Challenge

The Government's Red Tape Challenge started in April 2011 and aims to reduce the overall burden of regulation. With more than 21,000 regulations active in the UK today, the challenge puts a 'spotlight' on different areas of regulation in turn. For each spotlight theme, there is a five week window during which views can be submitted.

Contributions will be used by Government as part of producing a set of proposals on regulatory reform. In November 2011, the spotlight fell on the Maritime sector. The Challenge looked at over 200 international and domestic regulations designed to ensure that the UK's shipping, ports and waterways are operated in an efficient, safe, secure and sustainable manner. The Government's aim was to look to help reduce costs for the maritime sector without compromising the competitiveness or operational safety and security; and examine whether the UK's more historic maritime legislation is fit for purpose and suited to today's wider maritime needs.

With input from members, the BMF submitted a range of recommendations, which included:

- SI 1957/2021 Marine Equipment – removal of UK gold plating of EU Directive to apply to all ships
- SI 1998/1609 Merchant Shipping (Small Workboats and Pilot Boats) Regulations 1998 – changes to definitions of 'vessel in commercial use'
- SI 482/2771 Vessels in Commercial Use for Sport or Pleasure – changes to remove conflict with RCD definitions

These proposals are currently being reviewed by a Ministerial 'Star Chamber' with the presumption that all burdensome regulations will go unless the Department for Transport (DfT) can justify why they are needed. The DfT will then put its proposals to the Reducing Regulation Committee and seek policy clearance. An announcement on decisions will be published on the Red Tape Challenge website ([www.redtapechallenge.cabinetoffice.gov.uk](http://www.redtapechallenge.cabinetoffice.gov.uk)), and implementation by the DfT will begin.

## MERCHANT SHIPPING (M) NOTICES AND SAFETY ALERTS

### MGN 436 (M+F) WHOLE-BODY VIBRATION: Guidance on Mitigating Against the Effects of Shocks and Impacts on Small Vessels.

*Notice to all builders, owners, managers and operators of all small vessels.*

This guidance note provides guidance on mitigating, where there is a risk of injury, the effects of whole body vibration on small vessels, and in particular severe shocks as a result of impacts. Guidance is provided to assist in improving the design of vessels to reduce the severity of the impact and to provide a suitable postural position for those onboard to enable them to brace effectively. There is also guidance for operators on reducing the impact through training, pre-departure briefing and ensuring that the vessel is operated considering the demographic and medical history of those onboard. Advice is provided on the correct posture to take when you are likely to be exposed to shocks as a result of impacts.

[http://www.dft.gov.uk/mca/mgn\\_436.pdf](http://www.dft.gov.uk/mca/mgn_436.pdf)

### MSN 1672 (M+F) Amendment 3 – Ship Inspection and Survey Organisations and European Directive 2009/15/EC

*Notice to all Classification Societies, Shipowners, Ship operators and Managers, Masters and Officers of Merchant Ships and Fishing Vessels.*

This MSN outlines the approved standards as referred to in Merchant Shipping legislation and explains the means through which the UK has transposed Directive 2009/15/EC. It also specifies standards referred to in the definition of "relevant rules of a recognized organization" for the purposes of the Fishing Vessels (EC Directive on Harmonised Safety Regime) Regulations 1999 (SI 1999 No 2998).

## **MSN 1830 (M) Implementation of Directive 2009/21/EC in the United Kingdom**

*Notice to all Shipowners, Operators, Managers, Shipbuilders, Classification Societies, certifying Authorities, Masters, Seafarers.*

This MSN describes the way in which the United Kingdom meets its obligations under the European Flag State Directive 2009/21/EC. The broad areas covered relate to obligations regarding the transfer of data between Flag States, action when UK ships are detained abroad, the storage of data about UK ships, and auditing and quality systems of, and reporting by, the UK administration.

## **MIN 415 (M) Changes to Requirements for Inland Waterway Non-Passenger Vessels in the UK**

*Notice to all Ship Owners, ship operators, Masters, Navigation Authorities, Harbour Authorities, inland waterway freight shippers and surveyors.*

This notice is to advise all interested parties that:

- the MCA Fitness For Purpose (FFP) scheme for inland waterway non-passenger vessels is withdrawn from 1st October 2011;
- the proposed "National Standards" for inland waterway non-passenger vessels will not now be introduced.

## **MIN 421 (M) replacing MIN 416 (M) Approved Maritime and Coastguard Agency (MCA) Small Vessel Certifying Authorities**

*Notice to all Owners, Operators and Skippers of Small Vessels in Commercial Use and Certifying Authorities of this type of Vessel.*

The purpose of this Marine Information Note is to provide the revised contact details of the MCA approved Certifying Authorities undertaking survey and certification work against the standards of the Small Commercial Vessel Codes of Practice or MGN 280 (M).

## **MIN 417 (M) Large Yachts: Examination and Inspection of Carbon Fibre Masts and Spars. Survey of Composite Masts and Spars Used on Large Yachts**

*Notice to all designers, builders, owners, masters, skippers, surveyors and classification Societies of large sailing yachts.*

This Marine Information Note:

- Arises from a research project jointly funded with the Department for Business, Innovation & Skills entitled "Maintaining Structural Integrity in Fibre Reinforced Plastic Spars on High Performance Yachts (MSI-SPAR)";

- Is targeted at the examination and inspection of masts and spars;
- Applies principally, but not exclusively, to large sailing yachts as the construction which has been considered is essentially used in larger vessels;
- Provides guidance to a separate report available at [www.dft.gov.uk/mca/ensign](http://www.dft.gov.uk/mca/ensign) on the inspection and examination of masts and spars of large commercial yachts built under the MCA Large Commercial Yacht Code (MSN 1792 (M)) and which have masts (and other major spars) which are constructed from composite carbon fibre material.

## **BRITISH, EUROPEAN AND INTERNATIONAL STANDARDS**

### **Press Release - ICOMIA Launches Simplified Scantlings Calculator Method**

The International Council of Marine Industry Associations (ICOMIA) supported by the International Marine Certification Institute (IMCI) has launched a scantlings calculator which uses a series of easy-to-use spreadsheets in order to provide a calculation method to help and encourage builders to comply with ISO (Small Craft) Scantling standard 12215 Part 5.

Particularly used for the EU Recreational Craft Directive (RCD) compliance, builders face a number of challenges when self-assessing scantlings for craft of hull length less than 12-metres in all design categories. In order to comply with RCD requirements, builders use the 'Harmonised Standard' which provides the 'Presumption of Conformity', however the complex nature of these documents often force them into hiring a consultant or seeking a way to bypass the proof of compliance with the RCD. In response to these issues, ICOMIA's Technical Committee initiated a study (sponsored by IMCI), and upon approval from ISO, commissioned Southampton Solent University to develop a series of Excel spreadsheets designed to be used in conjunction with the ISO standard and specifically for use by self-certifying builders for whom 12215 Part 5 may be too daunting or time consuming.

The development team has produced 6 modules which cover most of the scope of Part 5 (less wood); with an emphasis on simplified data entry (these modules may be found on the ISO website if the builder has a legal copy of the standard). A seventh spreadsheet, 'Core Helper', provides a link between a number of common trade name cores and the modules all have a similar flow path, leading to a report which can go into the builder's technical file. Tony Rice, ICOMIA's Secretary General, states, "I believe this calculator will be of significant benefit to boat builders, particularly those currently self-certifying under the EU's RCD. I congratulate Dr. Robin Loscombe of Southampton Solent University for his excellent work and express my gratitude to IMCI whose financial support made this possible".



The 'Scantlings Calculator' can be accessed for free to legitimate owners of Part 5 at [www.icomia.com](http://www.icomia.com)

For more information please contact: [info@icomia.com](mailto:info@icomia.com)

## STANDARDS LISTING

### Standards Listing

#### RCD AND ASSOCIATED STANDARDS - DECEMBER 2011

##### Abbreviations:

**ISO** International standard - normally published as EN and BS after publication as ISO

**EN** European Norme (Standard)

**BS** British Standard

**FDIS** Final Draft International Standard

**DIS** Draft International Standard

**CD** Committee Draft - Not for general distribution

**WD** Working Draft - Not for general distribution

**NP** New Project

**\*** Indicates standard has been harmonised and meets Essential Safety Requirements

**SR** Indicates standard is up for systematic review

Availability indicates whether document is available in electronic format or is a published purchaseable standard

Bold indicates change of status

STATUS	NUMBER	YEAR	TITLE	COMMENTS
BS EN ISO	*6185-1	2001	Inflatable boats engine power up to 4.5kw	Published
BS EN ISO	*6185-2	2001	Inflatable boats engine power 4.5kw to 15kw	Published
BS EN ISO	*6185-3	2001	Inflatable boats engine power 15kw and greater	Under review
<b>ISO/DIS</b>	<b>6185-4</b>	<b>2005</b>	<b>Inflatable boats 8m to 24m power 75 kw and greater</b>	<b>Published</b>
BS EN ISO	*7840	2004	Fire resistant fuel hose	Under review
BS EN ISO	*8099	2001	Holding tanks	Published
BS EN ISO	8178 Part 1	1996	Reciprocating internal combustion engines. Exhaust emission measurement -Test bed measurement of gaseous and particulate exhaust emissions.	8178-1:2008 revision published
BS EN ISO	8178 Part 2	1997	ditto - Measurement of gaseous and particulate exhaust emissions on site.	
BS EN ISO	8178 Part 3	1994	ditto - Definitions and methods of measurement of exhaust gas smoke under steady state conditions.	
BS EN ISO	8178 Part 4	1996	ditto - Test cycles for different engine applications.	
BS EN ISO	8178 Part 5	1997	ditto - Test fuels	
BS EN ISO	*8469	2006	Non-fire resistant fuel hose	Under review
BS EN ISO	*8665	2006	Engine power measurement and declaration	Published
BS EN ISO	*8666	2002	Principal data	Possible review
BS EN & ISO	*8846	1993	Ignition protection test for components used in petrol installation	(BS EN 28846) Electric fan switches etc. to be used in hazardous spaces should meet this requirement.
BS EN ISO	*8847	2004	Steering - wire rope and pulley	Published
BS EN & ISO	*8848	1993	Steering - push pull cable for all craft types	(BS EN 28848) due for revision
BS EN ISO	*8849	2003	Electric bilge pumps	Published
BS EN ISO	*9093-1	1998	Seacocks and through hull fittings - Metallic	For SR 2011
BS EN ISO	*9093-2	2002	Seacocks and through hull fittings - Non-metallic	For S.R. 2011
BS EN ISO	*9094-1	2003	Fire protection to 15m	Current
BS EN ISO	*9094-2	2002	Fire protection 15-24m	Current
<b>ISO DIS</b>	<b>9094</b>	<b>2010</b>	<b>Fire protection</b>	<b>Cancelled</b>
BS EN ISO	*9097	1995	Electric fans/blowers	Fan rating standard (For S.R. 2011)
BS EN	*9775	1993	Steering push pull cables for outboards 15-40kw	Published
BS EN ISO	*10087	2006	Craft identification (CIN no.)	Published
BS EN ISO	*10088	2009	Permanently installed fuel systems and tanks	Use 2001 version for PE fuel tanks
<b>BS EN ISO</b>	<b>*10133</b>	<b>2008</b>	<b>Electric systems - extra low voltage d.c</b>	<b>Under review 2nd DIS</b>

STATUS	NUMBER	YEAR	TITLE	COMMENTS
BS EN ISO	*10239	2008	LPG system	For S.R. 2011
BS EN ISO	*10240	2004	Owners manual	Published
BS EN ISO	*10592	1995	Steering - Hydraulic	Published
BS EN ISO	*11105	1997	Petrol engine - Ventilation	Published
BS EN ISO	*11192	2005	Graphical symbols	Published
BS EN ISO	*11547	1994	Start-in-gear protection	Only of interest if changing outboard's mechanism.
BS EN ISO	*11591	2001	Field of vision	Of use only to power craft
BS EN ISO	*11592	2001	Determination of maximum power	For S.R. 2011
BS EN ISO	*11812	2002	Cockpits	Under review
BS EN ISO	*12215-1	2000	Scantlings - GRP reference laminate	Published
BS EN ISO	*12215-2	2002	Scantlings - Core materials for composites	Published
BS EN ISO	*12215-3	2002	Scantlings - Steel, aluminium wood, etc.	Published
BS EN ISO	*12215-4	2002	Scantlings - Workshop conditions	Published
BS EN ISO	12215-5	2008	Scantlings - Design pressures	Published
BS EN ISO	12215-6	2008	Structural arrangements	Published
<b>ISO FDIS</b>	<b>12215-7</b>	<b>2008</b>	<b>Scantlings - Multihulls</b>	<b>Awaiting Publication</b>
BS EN ISO	12215-8	2009	Scantlings - Rudders	Published
<b>ISO FDIS</b>	<b>12215-9</b>	<b>2007</b>	<b>Appendages and rig attachments</b>	<b>Awaiting Publication</b>
BS EN ISO	*12216	2002	Windows and hatches	Published
BS EN ISO	12217-1+A1	2009	Stability - Non-sailing boats > 6m	Now published
BS EN ISO	*12217-2	2002	Stability - Sailing boats > 6m in length	Under revision
BS EN ISO	*12217-3+A1	2009	Stability - Boats of < 6m in length	Published
<b>BS EN ISO</b>	<b>*13297</b>	<b>2001</b>	<b>AC electric system</b>	<b>Under review 2nd DIS</b>
ISO	13342	1995	Outboard motor static thrust measurement	Only of interest to outboard engine manufacturers
BS EN ISO	*13590	2003	Personal watercraft (PWC)	Published
BS ISO	*13591	1997	Portable fuel system for outboards	Possible revision
BS ISO	*13592	1998	Petrol engine backfire prevention	Possible revision
BS EN ISO	*13929	2001	Steering gear - Rack and pinion	Torque tube/rod systems' covered by this draft
BS EN ISO	14509-1	2008	Measurement of sound emitted by powered recreational craft pass by	(For S.R. 2011)
BS EN ISO	*14509-2	2006	Sound testing reference boat concept	Published - consult BMF prior to use
ISO/FDIS	*14509-3	2009	Sound testing SoundBoat method	Published
BS EN ISO	*14895	2003	Liquid-fuelled galley stoves	Proposal to extend scope
BS EN ISO	*14945	2004	Builders plate	Published
BS EN ISO	*14946	2001	Maximum load capacity	(For S.R. 2011)
BS EN ISO	*15083	2003	Bilge pumping systems	Published
BS EN ISO	*15084	2003	Strong points, anchoring etc.	Published
BS EN ISO	*15085+A1	2009	Guard rails, lifelines and handrails	Under review
BS EN ISO	*15584	2001	Inboard mounted petrol engine fuel and electrical components	
EN	*15609	2008	LPG Propulsion systems	Published
BS EN ISO	15652	2005	Steering systems - mini-jet boats	Published
BS EN ISO	*16147	2002	Inboard mounted diesel engine fuel and electrical components	Published
NWIP	16180	2008	(Electric) Navigation lights	No progress
BS EN ISO	*21487+AC2009	2006	Permanently installed petrol and diesel fuel tanks	Published Under revision
EN	60092-507	2000	For 3-phase electrics only	Revision not harmonised



## OTHER STANDARDS

STATUS	NUMBER	YEAR	TITLE	COMMENTS
BS PD	5482-3	2005	CoP LPG installations in boats and yachts	Revision of BS 5482-3 - no presumption of conformity
BS	8511	2010	CoP for the Installation of Solid Fuel Heating and Cooking Appliances in Small Craft	Published
BS EN ISO	9650-1	2005	Liferafts - Type 1 (offshore)	Possible revision
BS EN ISO	9650-2	2005	Liferafts - Type 2 (coastal)	Possible revision
BS EN ISO	9650-3	2009	Liferafts - Materials	Published
ISO	10134	2003	Lightning protection	Published
ISO	12401	2009	Small craft - Deck safety harnesses and safety line for use on recreational craft	Published
BS EN ISO	12402-1	2005	Lifejackets - Ships	Published
BS EN ISO	12402-2/ A1:2010	2006	Lifejackets 275N	Published
BS EN ISO	12402-3/ A1:2010	2006	Lifejackets 150N	Published
BS EN ISO	12402-4/ A1:2010	2006	Lifejackets 100N	Published
BS EN ISO	12402-5/ A1:2010	2006	Buoyancy aids 50N	Published
BS EN ISO	12402-6/ A1:2010	2007	PFD - Part 6: Class F	Published
BS EN ISO	12402-7	2007	PFD - Part 7: Materials and components	Amendment under way
BS EN ISO	12402-8	2006	PFD - Part 8: Additional items, safety requirements and test methods	Amendment under way
BS EN ISO	12402-9	2007	PFD - Part 9: Test methods classes A to F	Amendment under way
BS EN ISO	12402-10	2005	PFD - Part 10: Application and use	Published
ISO	14227	2001	Magnetic compasses	Confirmed
ISO/CD	25197		Electronic control for steering shift and throttle	Under development
BS EN	60945	2002	Nav and radiocomm equipment testing methods	Supersedes the 1997 version
ISO WD	16315		Electric propulsion systems	Under development
ISO DIS	12133		Carbon monoxide detecting systems	Under development

## Large Yacht Standards

Project Number	Project	Comments
ISO/CD 11208	Windows and port lights – Security requirements	Decided to restart as a new work item with a wide participation of experts.
ISO/CD 11209	Deck crane and access gangways strength requirements	DIS registered.
ISO/DIS 11336	Strength, weathertightness and watertightness of glazed openings	Inflatable boats engine power 15kw and greater
<b>Part 1</b>	<b>Framing</b>	<b>Full report circulated: DIS approved for registration as FDIS.</b>
Part 2	Quality assurance, installation and in-service inspection	NWIP stage.
Part 3	*8099	NWIP stage.
ISO/DIS 11347	Measurement and analysis of the visual appearance of coatings	Full report circulated: DIS approved for registration as FDIS.
ISO/NP 14884	Weathertight Doors – Strength and Weathertightness requirements	New project approved.
ISO/NP 14885	Machinery – Main and Auxiliary Diesel Engines – Safety Requirements	New project approved. Committee Draft at an advanced stage.
ISO/NP 14886	Large Yachts - Structural fire protection for FRP yachts	New project approved. Limited input from Working Group.
ISO/NWIP N45	Yachts Recycling	Project moved to TC8 Working Group 1.
ISO/NWIP N63	Deck equipment - Anchoring equipments	New project approved.

## MANUFACTURING NEWSLETTER #17

### TRANSPORT KNOWLEDGE TRANSFER NETWORK – MARINE SPECIALIST

The Transport Knowledge Transfer Network (KTN), set up a year ago by the Technology Strategy Board (TSB), is funding sector specialist roles in each of the automotive, rail and marine sectors to ensure that there is positive and direct engagement between the Transport KTN and the constituent industrial sectors. Marine is the latest sector specialist to be appointed and Adrian Waddams took on this role with effect from November. Adrian is now working with the Transport KTN team on a part time secondment from the BMF and will otherwise continue as BMF Manufacturing Manager.

The mission of the Transport KTN is “to support the development of integrated, efficient and sustainable transport systems by bringing together independent, but interrelated organisations to stimulate innovation through knowledge transfer”. The Transport KTN seeks out and supports innovation that addresses common challenge areas from the road, rail and marine sectors, and these include priority areas under the headings intelligent mobility, energy efficiency, light-weighting, funding opportunities and knowledge exchange. Anyone with an interest in these and other innovation topics can join the Transport KTN and be part of the growing network of KTNs supported by the Technology Strategy Board on its Connect portal. This new platform provides an effective and powerful way to collaborate online, network and share knowledge with others. To find out more about the Transport KTN go to: <https://connect.innovateuk.org/web/transportktn>

In this new marine specialist role Adrian will build on his existing manufacturing, technology and innovation activities to develop closer links between the UK marine industries and the Transport KTN, particularly with the automotive and rail sectors where there is considerable scope for cross sector transfer of innovation and capabilities in meeting current and future industry challenges. As a member of the Technology and Innovation Group of the UK Marine Industries Alliance, Adrian will continue working with other marine Trade Associations, including the Society of Maritime Industries, Shipbuilders and Shiprepairers Association and UK NEST, and other stakeholders including the Technology Strategy Board. The TIG represents and supports the technology and innovation interests of all the marine industries comprising naval, commercial, leisure and offshore renewables sectors and encourages collaboration and knowledge transfer activities with other industry sectors, academia, research institutions, research councils and other Knowledge Transfer Networks.

On Transport KTN matters Adrian can be contacted at:  
[adrian.waddams@transportktn.org](mailto:adrian.waddams@transportktn.org)  
or at [awaddams@britishmarine.co.uk](mailto:awaddams@britishmarine.co.uk)

## MARINE SUPPLY CHAIN INITIATIVE GATHERS PACE

Industry support for a marine supply chain initiative is gathering pace and on the strength of this the BMF has begun planning a major event for next spring. This follows the supply chain seminar held during the PSP Southampton Boat Show and the working group meeting in October of representatives from several UK boat builders and key suppliers.

The spring event will be along the lines of Meet the Buyer with opportunities for informal meetings as a forum to highlight the needs of boatbuilders large and small and the capabilities of suppliers of all sizes. It will be staged in a convivial environment and will aim to encourage closer collaboration within the industry and identify other business development opportunities, including closer engagement with relevant business and technical support agencies such as the Manufacturing Advisory Service, Technology Strategy Board and the Transport Knowledge Transfer Network.

Other industry sectors have found that supply chain development and closer collaboration between the various businesses involved can improve profitability, quality and commercial relationships. We will draw from their experience and best practice where relevant whilst recognising the particular needs of BMF members and the wider marine supply chain. We expect to bring you more information about this event during the Tullet Prebon London Boat Show, and anyone who has not yet expressed an interest in becoming involved and wishes to do so may contact Adrian Waddams, BMF Manufacturing Manager at [awaddams@britishmarine.co.uk](mailto:awaddams@britishmarine.co.uk)

## STYRENE UPDATE

As reported in TR100 and TR101 styrene as used in polyester and vinylester resins is subject to the EU Chemical legislation REACH and is currently under evaluation with the expectation that occupational exposure limits will be reduced throughout Europe in a few years time. The effect on GRP processing for boat construction will be significant with improved ventilation likely to be required to limit exposure levels in the workplace where open mould processes are used, or the introduction of closed mould processes. Many larger and specialist boatbuilders are moving towards resin infusion, and others may need to make changes to meet any future lower exposure limits.

The producers of styrene containing resins are represented by the European UP/VE Resin Association as part of Cefic - European Chemical Industry Council. The Cefic UPR group has an excellent public website covering styrene matters from which many information papers can be downloaded: [www.upresins.org](http://www.upresins.org). The website contains news, position papers and safe handling guides about styrene based resins. This group is monitoring developments in REACH and is ensuring that full and objective information is provided to inform the REACH process which is continuing. The BMF is in regular contact with the UK representative on the Cefic UPR group and when further information emerges about REACH decisions affecting styrene we will ensure members are alerted.

## HARDWOOD DUST – WORKPLACE EXPOSURE LIMITS

The information below is courtesy of the Health and Safety Executive (HSE) and relates to an EU Proposal to reduce Workplace Exposure Limits (WEL) for hardwood dust from 5 mg/m<sup>3</sup> to either 3 or 1 mg/m<sup>3</sup>. The HSE is interested in the possible effects on industry, including boatbuilding so BMF members are invited to comment and provide any data on how they meet the current WEL of 5 mg/m<sup>3</sup>.

### Background

The current UK Workplace Exposure Limit (WEL) of 5 mg/m<sup>3</sup> (8 hr time-weighted average) for inhalable hardwood dust is the same as that in Annex III of EU Directive 2004/37/EC, the Carcinogen & Mutagens Directive. However, there is discussion at EU level to reduce this binding limit to either 3 or 1 mg/m<sup>3</sup>; if agreed the UK would be obliged to implement what is agreed at EU level. A proposal to change the limits in Annex III is unlikely to come forward before 2013 and would take at least 18 months to 2 years to come into force.

As the method of sampling and analysis does not distinguish between hardwood and softwood dust, a change to the WEL could impact on any woodworking industry that uses hardwood or mixed wood. Whilst this approach may appear precautionary, it should be noted that the Scientific Committee for Occupational Exposure Limits (SCOEL) has reported that exposure to wood dust above 0.5 mg/m<sup>3</sup> can have significant health impairment. Furthermore, the International Agency for Research on Cancer (IARC) considers all wood dust carcinogenic (wood dust IARC Group 1; carpentry & joinery IARC Group 2B). The EU currently only considers hardwood dust to be carcinogenic (and hence control of hardwood dust should be below the WEL and as low as reasonably practicable under COSHH).

Other EU Member States have lower limits for wood dust than the UK, with the lowest being in France with a binding limit for wood dust of 1 mg/m<sup>3</sup>, but most countries have a value around 2 mg/m<sup>3</sup>. The level of 1 mg/m<sup>3</sup> is near the limit of measurement and the method used may be important.

An impact assessment, carried out under contract to the EU, has concluded there are significant health benefits in reducing the WEL from 5 to 3 mg/m<sup>3</sup> and that most of the EU is already compliant with 3 mg/m<sup>3</sup>, but that a reduction to 1 mg/m<sup>3</sup> would not give sufficient health benefits compared to the additional costs needed to achieve compliance. However, no decision has yet been made.

### Process

Discussions have begun on introducing new or amended binding limits for certain carcinogens, including hardwood dust, and including them in an existing Annex to the Carcinogens and Mutagens Directive. In particular, a possible new limit for hardwood dust, was discussed at the EU Working Party on Chemicals (WP) in June 2011, and again on 26/27 October 2011. New and amended binding limits are likely to be proposed in a draft Directive in 2013. If agreed there should be 18 months for the UK to implement (so possibly in force towards end 2014). Of course HSE will consult formally before introducing new WELs during this 18 month period, but HSE would also like to have up-to-date information on current levels of exposure, and on what is

practicable in terms of exposure reduction, to inform discussions within WP meetings.

The UK has undertaken an informal consultation via the Woodworking Safety Group to try and obtain information on the impact of the proposed levels for the UK, but still has limited information on wood use, people exposed and level of exposure within the UK boat building Industry.

### **Information on Wood in Boatbuilding**

The impact assessment has indicated that, in the UK, the overall geometric mean of exposure to wood dust is 0.51 mg/m<sup>3</sup> and the 90th percentile is 2.8 mg/m<sup>3</sup>.

The key areas of wood working are identified in this assessment, with boat building and repairs giving the highest value (geometric mean of 1.9 mg/m<sup>3</sup> based on data from France & Finland only). The report appears to have extrapolated / estimated that in the UK the geometric mean exposure is 2.6 mg/m<sup>3</sup> for boat-building and that about 1,700 workers are involved in this activity.

### **Request for information**

The BMF requested information in October from a small number of major boatbuilders and teak deck producers, but none has been received. Given the importance of the possible reduced WEL on boatbuilders HSE remains interested to know whether the industry would be able to meet the proposed limits with existing process/controls, etc, and if not, what changes would have to be made in order to comply with a new limit, and what would be the estimated cost. Clearly if the lower of the possible limits being considered were to be favoured it is important that any evidence demonstrating that this would place a disproportionate burden on industry should be made known to the Working Party as soon as possible. Those affected are invited to contact either Adrian Waddams or HSE addressed to:

Dr Sue Hambling  
CSEAD, HSE

Tel 0151 951 4038

E-mail [susan.hambling@hse.gsi.gov.uk](mailto:susan.hambling@hse.gsi.gov.uk)

## **UK MARINE INDUSTRIES ROADMAP AND CAPABILITY STUDY**

A series of five "deep dive" workshops took place in the autumn to assist the Technology Strategy Board, BIS, UK Marine Industries Alliance and the Transport KTN to develop a roadmap to identify future priority opportunities and capability needs for the UK Marine Industries. Workshop C: Marine Leisure & Equipment was the third workshop and took place at the Warwick Manufacturing Group at the University of Warwick on 9 November 2011. It was attended by more than 20 experts drawn from across the Marine Industry, academia and other stakeholders.

The workshop took a sub-set of the landscape roadmap, developed in June, which was then developed further to identify priority trends and drivers and then to identify and characterise around 40 Market Opportunities in Marine Leisure and Equipment. The report of this event and the four other deep dive workshops can be downloaded at:

<https://connect.innovateuk.org/web/transportktn/articles/-/blogs/marine-roadmapping-update>

Please note this requires free registration.

An extract from the Executive Summary on Workshop C: Marine Leisure & Equipment is as follows:

Participants contributed before the workshop by providing their perspectives in a roadmap template – identifying priority Drivers, Opportunities, Capabilities and Enablers in the Short, Medium and Long timeframes. These were consolidated ahead of the workshop to provide a start point to which further issues were added and priorities identified. The most important market opportunities were then highlighted, where UK capability could deliver against major global market needs. These assessments were based on defined criteria for Value (global and UK market, competitive strength, added value and impact on societal and environmental challenges) and Capability (in the marine industry, academia, research organisations and from adjacent industries).

In prioritising relevant Trends and Drivers, there was a strong emphasis on changing demographics and consumer demand (from the needs of an ageing population, challenges of introducing new people to boating and opportunities from emerging Markets/BRIC Growth) resulting in a more "clean hands - no sweat" boat operation; as well as the challenges of reversing the increasing cost of boating at a time of economic downturn. The role of standards will be significant, especially from EU and relating to technical, environmental (NO<sub>x</sub>, SO<sub>x</sub>, particulates, waste & CO<sub>2</sub>) and safety; as will new technologies including more environmentally friendly propulsion energy solutions; simulation and modelling and accelerated new product development processes. Through-life support will be vital in delivering lower cost of ownership, with the need to consider recycling, retrofit and upgrade, as well as end of life disposal and recycling.

Priority Opportunities were identified across a range of areas, though largely focused on marine leisure rather than equipment. The leading opportunities included: Easy to use leisure navigation systems and integrated communications/data; Alternative fuels/ Electrification and Hybrids and efficient propulsion/re-powering; New leisure marine products for developing markets (and tailoring for specific market needs); Volume produced smaller leisure craft types for affordable participation e.g. for first-time owners/3rd age; Lower-cost construction methods and hull design, vessel design and aesthetics.

Opportunities for equipment and component technologies were highlighted, including sustainable composites and smart materials; Coatings (e.g. for low friction); Safety systems and equipment; Technologies for (Semi-) autonomous control and navigation (e.g. Intuitive IT based controls) and Exhaust after treatment systems. Of these opportunities, the first six were explored in more detail – to characterise the market value and identify relevant sources of UK capability for delivery (and potential gaps that will need to be filled).

In support of these opportunities, a wide range of capabilities was identified from within the Marine Industries, and also in academia and research organisations. The most relevant areas of capability to support these market opportunities were: Supply Chain Management; Service and Support; Simulation and Modelling; CAE/CAD/CAM; Design processes and Modularisation; Materials technology; Manufacturing technology; Design and manufacture for sustainability.



The workshop also identified other key enablers for success, underpinning these capabilities as: Understanding Customer/Owner/Operator needs; Technology transfer from other industries; Skills availability; Training and Education; Funding and investment; Partnerships and Networks; International collaboration; Supply chain/logistics; Business Model Innovation and Technology translators. It was particularly notable that the role of technology transfer from other areas of Marine and the wider industrial base (and supporting enablers to deliver this) was strongly prevalent in the delivery of all the priority opportunities.

Inputs from all five workshops are being collated by the Institute for Manufacturing at the University of Cambridge, which facilitated the workshops, and a complementary Capability Study is being prepared by Ricardo PLC as part of the Marine Roadmap due to be published in the late spring. For further information please contact Adrian Waddams.

## EUROPEAN BOAT DESIGN INNOVATION GROUP

The recently completed European Boat Design Innovation Group (EBDIG) project supported the RINA International Conference on Marine Design and is a major contributor to the new RINA International Journal of Marine Design.

EBDIG aims to make the European boat design industry more competitive in the international market place by providing on-line training material for designers working within the marine industry. The objective of EBDIG is to transfer advanced design methodologies and technology from the automotive sector into the marine sector to facilitate design innovation and competitive advantage. The EBDIG project led by Coventry University was recently completed and the training material and other resources remain available at: [www.ebdig.eu](http://www.ebdig.eu)

EBDIG is a European funded Leonardo project to create innovative learning materials for employees working within the Marine industry and to provide a networking framework. It transfers embedded practices within the automotive industry through courses in design visualisation, ergonomics and telematics, and sustainable materials. The courses are delivered by an interactive web based Digital Innovation Studio. Industry partners include the BMF and European trade association European Boating Industry (EBI). EBDIG has applied for accreditation as continuing professional development (CPD) from the Royal Institution of Naval Architects (RINA).

### RINA International Conference on Marine Design

As a culmination of the two year EBDIG project Coventry University hosted the RINA International Conference on Marine Design on 14 & 15 September. Papers presented by a range of speakers from Coventry University and other European EBDIG partners, plus boat design studios, human factors experts and Lloyds Register covered design related topics from RIBs to Superyachts. The full conference proceedings are available from RINA at [www.rina.org.uk](http://www.rina.org.uk) The RINA International Conference on Marine Design will be a bi-annual event.

### International Journal of Marine Design

To coincide with the above conference RINA launched its new on-line e-journal the International Journal of Marine Design to be published three times a year. The journal will be available free for the first year on the RINA website at: [www.rina.org.uk/IJMD](http://www.rina.org.uk/IJMD). It will feature articles, papers and comments that raise awareness of the value and benefits of industrial design applied to marine craft and products, and particularly the application of aesthetic design, ergonomics and sustainability in the product design process with designers working collaboratively with naval architects, engineers and manufacturing and marketing teams. It will also consider the impact of regulations, and how sustainability both in construction and operation can benefit from the transfer of innovation from other sectors, particularly automotive design. Publishing in an on-line format will enable discussion to take place, particularly on future design trends and the direction of the marine industry. The editor is Dr Sean McCartan of Coventry University supported by an editorial board that includes Tom Chant and Adrian Waddams of the BMF.

Articles based on some of the papers presented at the above Design Conference are included in the first edition of the new marine design journal. These include design driven innovation and how to apply this to the demands of the Chinese luxury yacht market. The subliminal language of automotive design in which users' thoughts, beliefs, values and attitudes and their emotional associations, whether consciously or subconsciously are interpreted through product design, and how this can be applied to boat design, linking form, function and aesthetics in designing boats that appeal to customers. Technology transfer applied to ergonomics in boat design using automotive digital human models, particularly for the areas of seating and controls, is described in another article. Supercomputing to enable advanced visualisation technology is used in the automotive industry and described here as applied to superyacht design to enhance spacial awareness and create an immersive experience for clients. More down to earth is the paper on boat design with a positive impact with its considerations of how to deal with end of life boats, with many originating from the 60s and 70s now reaching that stage. This introduces considerations that already apply to cars and other consumer products, as necessitated by EU directives, covering design for disassembly (DfD), life cycle analysis (LCA) and materials that can be recycled.

This is an interesting and informed journal and the next edition of the RINA International Journal of Marine Design will be coming soon. Please contact Adrian Waddams for EBDIG enquiries.

## MANUFACTURING ADVISORY SERVICE – NEW ARRANGEMENTS FOR 2012

Further to the report in TR 101 about the future delivery of the Manufacturing Advisory Service it was announced on 14 October that the MAS is being managed from 1 January 2012 by the Manufacturing Advisory Consortium comprising, Grant Thornton, Pera, WM Manufacturing Consortium Ltd and SWMAS Ltd under contract to the Department for Business, Innovation and Skills.

For the most part it will be business as usual for MAS and existing clients who have been engaged with MAS in the English regions since April 2010 are being contacted to request permission for

the transfer of their data to the new national MAS provider. Arrangements for manufacturing support in Wales and Scotland are unaffected.

The ministerial announcement confirmed that the Manufacturing Advisory Service will continue to deliver a national service to all manufacturing businesses in England, but the new consortium now means that there will be a specific focus on:

- Driving business growth through strategic and technical support for SMEs developing advanced manufacturing capabilities and creating high value jobs
- Enabling business improvement with manufacturers operating in global supply chains; and,
- Linking SMEs with the apprenticeship programme delivering a minimum of 1,250 engineering and manufacturing apprenticeships annually.

The MAS website provides all information, latest news and regular updates about the new MAS at: <http://www.mas.bis.gov.uk/>

## ENVIRONMENT UPDATE #9

### DECOMMISSIONING OF CRAFT – EU STUDY

On the 30th September 2011, the BMF attended a stakeholder workshop in Brussels to discuss the Commission's study into the decommissioning of Vessels below 500 GT. Although the final report has yet to be formally submitted to the Commission (and therefore the current information may be subject to change), the study reviewed the size of the European fleet, impacts of current and best practice on recycling, an impact assessment and conclusions.

With particular focus on the leisure sector, the study's findings were based on three projected scenarios for the lifetime of a recreational craft. This included 30, 45 and 60 years. Following a review of construction material, the study estimated that recreational craft would cost between 100 and 1000 EURO/m to dispose of.

The impact assessment identified a range of Policy Options. Of most importance to the leisure sector were the following:

Policy 2: Applying legislation on Extended Producer Responsibility

Policy 3: Develop a recycling fund for recreational craft

Policy 5: Development of a mandatory registration and deregistration system

It is important to note that these are initial findings from the study and are not recommendations, but options. The final report will be submitted to the commission shortly, taking into account the BMF's comments at the meeting. The commission will then take a decision as to what the next phase of the project will be and publish their final report at <http://ec.europa.eu/environment/waste/ships/index.htm>

## COMPOSITE UK RECYCLING STRATEGY AND SUSTAINABILITY PARTNERSHIP

The BMF attended the Composites UK Recycling Working Group (RWG) on the 23rd November to discuss the long-term issues for GFRP (Glass Fibre Reinforced Polymers) and CFRP (Carbon Fibre Reinforced Polymers) disposal and to establish a UK Recycling Strategy and Sustainability Partnership for the whole composites supply chain. It is intended that this will place the UK ahead of many other European and International countries and potentially provide exploitation opportunities.

The aim of the Partnership will be to highlight key issues, prioritise and decide how to best approach solutions for disposal.

The work will comprise of 4 key elements:

- Scoping study to determine the current situation and volumes of manufacturing waste produced
- Development of a Composites Resource Efficiency Action Plan
- Formation of a Composites Sustainability Partnership (CSP) to implement the plan
- Development of business case for FRP recycling infrastructure in the UK

The BMF will play a key role in the Partnership and will be engaging with the Industry, ensuring that their interests are represented throughout the project.

## MARINE PLANNING, LICENSING & CONSERVATION ZONES

In October, the BMF met with the Marine Management Organisation at their offices in Newcastle to discuss the impact of marine planning on the leisure marine sector as a result of secondary legislation from the Marine & Coastal Access Act. The proposals are to ensure that sustainable development is taken into account at every stage of marine offshore and inshore planning. The BMF will be attending a stakeholder event on the 6th December in Peterborough to discuss the implementation of marine planning in the East of England.

The BMF met again with the MMO in London in early November to discuss the delivery and management of the new marine licensing regime for dredging. From April 2012, all forms of dredging will require a licence. This will include maintenance dredging. The MMO have sought input from the BMF and other sectors to establish a suitable mechanism for regulation and enforcement. A public consultation will be out in mid December, followed by a number of stakeholder workshops from January 2012.

On the 15th November, Environment Minister Richard Benyon made a Written Ministerial Statement outlining a revised time line for the designation of Marine Conservation Zones. The Minister emphasised the Government's commitment to implementing in full the provisions of the Marine and Coastal Access Act and that the Government are creating a network of national protected areas in British seas to ensure underwater wildlife flourishes in years to come.

The Government's first step to identifying new Marine Conservation Zones (MCZs) in English waters was taken forward through four regional MCZ projects managed by the Statutory

Nature Conservation Bodies, who are Natural England and the Joint Nature Conservation Committee. The regional projects provided their recommendations for proposed sites for MCZs on 8 September (of which there were 127 sites). These have been reviewed by the independent Science Advisory Panel (SAP) and their advice to the SNCBs and Defra is available on the DEFRA website.

The Marine and Coastal Access Act requires the establishment of a network of conservation sites in the UK marine area. In English waters the network will comprise European Marine Sites, Sites of Special Scientific Interest, sites designated under the Ramsar Convention and Marine Conservation Zones (MCZs).

The Act requires that the network must conserve or improve the UK marine environment and protect a range of representative features.

The regional MCZ projects brought stakeholders together and making site recommendations, but there are a number of gaps and limitations in the scientific evidence base supporting the MCZ recommendations.

The Minister said "It is important that we get this right. It is vital that we have an adequate evidence base for every site if we are to create successful well-managed MCZs. An adequately robust evidence base will be essential when we come to implement management measures."

Defra will therefore be commissioning significant additional work to support MCZ designation including an in depth review of the evidence base for all the regional projects' site recommendations and committing additional resources to carrying out seabed and habitat monitoring.

Natural England and the Joint Nature Conservation Committee will provide the MCZ impact assessment and their formal advice in July 2012. This is six months later than previously planned and this revised timetable will enable them to address the recommendations from the Independent Review of the Evidence Process for Selecting Marine Special Areas of Conservation (published July 2011) and take account of any further evidence obtained from the work that Defra is now commissioning. DEFRA will consider all the advice received before undertaking a formal public consultation on MCZs by the end of 2012. This consultation will include all sites recommended by the Regional Projects with clarity on how and when work on them will be taken forward. It is envisaged that the first MCZ designations will take place in 2013.

## HABITATS AND BIRDS DIRECTIVES – IMPLEMENTATION IN ENGLAND

Defra will conduct an in-depth analysis of how well the EU Habitats and Birds Directives are being applied in England, working with stakeholders and other Government departments. It was one of a number of measures unveiled in today's Autumn Statement by the Chancellor. Commenting after the Autumn Statement, Environment Secretary Caroline Spelman said:

"The Habitats and Birds Directives protect our rarest, most threatened habitats and species and ensure conservation interests are fully taken into account when development proposals are being considered. We strongly support the aims of these

Directives. We want them to continue to be effective in protecting these very important wildlife sites and species. It's important that we maintain the integrity of these Directives. The vast majority of development cases do successfully meet the Directives' requirements but a small number raise particularly complex issues which give rise to unnecessary costs and delays. There's also the possibility that the Directives are being used in ways for which they were not intended. These issues risk undermining the reputation of the Directives, and the valuable protection they provide. I don't want to see that happen. That is why I am looking forward to seeing recommendations on dealing with any overly-bureaucratic or long, drawn out examples of implementation, without compromising the current levels of environmental protection."

The analysis will focus on the obligations in the legislation which affect the authorisation process for proposed development, with a view to reducing the burdens on businesses while maintaining and where possible enhancing environmental benefits. It will also look at what is working well in terms of meeting the objectives of the legislation, and what scope there is to learn from good practice by all those involved and to share it more widely. The review will report by March next year.

Defra will also:

- Establish a problem-solving unit to address blockages for developments where compliance with the Directives is particularly complex or has large impacts;
- Make it easier for businesses to understand what they must do to comply with the Directives by improving Natural England's support and assistance offer to developers and consulting on updated guidance before the Budget; and
- Give industry representation on a group chaired by Ministers so it can raise concerns deriving from the Directives at the top of Government Protected sites are Special Areas of Conservation (SACs) under the Habitats Directive and Special Protection Areas (SPAs) under the Birds Directive. There are currently 251 SACs and 84 SPAs in England, covering about 6% of land and 24% of inshore waters

Notes:

The Terms of Reference for the Review can be found at: [www.defra.gov.uk/rural/protected/habitats-wildbirds-review](http://www.defra.gov.uk/rural/protected/habitats-wildbirds-review)

## ISO TC 228 WG8 – YACHT HARBOUR STANDARDS

The BMF attended the second ISO Working Group on Yacht Harbour Standards in Paris on the 9th December. For more information on the progress of this standard, please visit [www.britishmarine.co.uk/isomarinastandards](http://www.britishmarine.co.uk/isomarinastandards)

### Want to know more?

For more information on these or any other Environment, Boating Facility or External Relation issues, please contact Brian Clark, Environment & External Relations Manager on 01784 223644, e-mail [bclark@britishmarine.co.uk](mailto:bclark@britishmarine.co.uk) or follow me on Twitter @BMFBrianClark

## BMF MEMBERSHIP

All of this and more included in your membership:

### Training

Grants of up to £1000, discounts on short courses and qualifications, free job adverts on BMF website, and a wealth of advice on everything from recruitment to apprenticeships to in-house training.

### Training – Liv Whetmore

E-mail [lwhetmore@britishmarine.co.uk](mailto:lwhetmore@britishmarine.co.uk)

The Training department offer a wide range of short courses through the year. Please see [www.britishmarine.co.uk/training](http://www.britishmarine.co.uk/training) for details and dates of various courses or contact Liv Whetmore direct.

### Technical

Over 100 years combined experience in the industry, the team are a unique resource for all technical matters including RCD, stability, health and safety, manufacturing, R&D and innovation.

A quarterly report and website updates gives members the latest on new legislation and changes too.

### Legal

In-house expertise, legal helpline and website provide help and assistance on unique enquiries. There are also draft contracts and agreements in place and the service also includes VAT and financial advice.

### Marketing

Use of the BMF and association logos is included, and by displaying these it signals to the consumer a sign of quality. Members also receive marketing through the website and member only opportunities to get involved in projects. BMF, and its members, also produce other sector specific brochures and websites that you are included in.

### Statistics and Market Reports

The service has a wealth of current and historic data on the UK and International market, including country reports, size of the industry, trends and participation information. Reports are available and data can be exported for individual requests.

### International Development

A year long programme of activity designed to meet the needs to members exporting; this includes assistance with attending events including help obtaining grants, visits to international yards, and inward missions to promote UK businesses.

### Discounts and commercial benefits

Members qualify for up to 25% discount off Boat Show space at NBS run events, these events are major showcases for the industry. There are also a number of other discounts and free services including; free credit report searches, free environment planning advice and preferential rates for Barclaycard.

For more information please visit [www.britishmarine.co.uk](http://www.britishmarine.co.uk)











**Contact us:**

**British Marine Federation**

Marine House, Thorpe Lea Road,  
Egham, Surrey TW20 8BF

Tel: 01784 473377 Fax: 01784 439678

E-mail: [info@britishmarine.co.uk](mailto:info@britishmarine.co.uk)

[www.britishmarine.co.uk](http://www.britishmarine.co.uk)