

Europe's marine equipment industry is in danger of being paralysed by

# Red Tape (Over-Regulation), Class' multiple certification and Know-how Transfer

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# Preface

October 2011 by John R. Kuehmayer

## Over-Regulation

As long as European legislators are not earnestly willing to level the global environmental playing field in the worldwide shipbuilding and shipping arena, and as long as the European Commission adheres to a front runner mentality, European marine equipment manufacturers will be forced to devote more and more work hours to the compliance with non-safety related legislation, rules and regulations for sea-going steel ships. Managing a mountainous regulatory burden of climate-change hype driven legislation (to give only one exuberant example) is a significant challenge for the marine equipment industry. The cost of regulatory compliance as a share of operating expenses can’t be passed on to shipowners or shipbuilders to its full content and poses a massive threat to the competitiveness of European equipment manufacturers!

Another very lucrative area of maritime law making is HSE Health, Safety and Environment.

More regulation, in other words – Red Tape – does not necessarily make marine equipment and ships safer, shipbuilders more competitive, or the shipping and financing

industry healthier. More regulation – if it's not smart regulation – can have the opposite effect, chilling growth and driving up prices. It might lead to such a level of frustration that management decides to step out from marine business.

What is needed is a bold initiative that reverses the trend of expansive rulemaking and frees the European mature marine equipment industry to preserve its technological world leadership! This industry is full of bright, energetic entrepreneurs, who are eager to innovate and develop products and deliver quality services in a partnership driven cooperation with European shipyards, and further expand – if appropriate – their highly educated and talented workforce and global business relationship, if the European Commission and national governments would just get a little bit out of the way.

As if that's not enough, this record highs of regulatory burdens are scheduled to increase and create an avalanche of additional rules published by recognised organisations, thus opening new business opportunities (big money) to Classification Societies, Notified Bodies, test laboratories, certification and verification providers.

## Multiple Certification

The third and final legislative package (Erika III) of the European Union has addressed primarily Flag States, Classification Societies and their civil liability. The provision that has created considerable unrest and opposition within the community of Classification Societies was Article 10 of the so-called "Class Regulation 391/2009/EC" which states the following:

*"Recognised organisations shall consult with each other periodically with a view to maintaining equivalence and aiming for harmonisation of their rules and procedures and the implementation thereof. They shall cooperate with each other with a view to achieving consistent interpretation of the international conventions, without prejudice to the powers of the Flag States. Recognised organisations shall, in appropriate cases, agree on the technical and procedural conditions under which they will mutually recognise the class certificates for materials, equipment and components based on equivalent standards, taking the most demanding and rigorous standards as the reference".*

By proposing that Classification Societies shall cooperate with each other in properly implementing mutual recognition of their certificates, the European Commission has put something like a bombshell under the way Classification Societies have traditionally operated in sharp contrast with

the European Union 's principles of free movement of goods and services and the Commission's cartel regime. The "Class Directive" is by the way another example of the bold frontrunner philosophy of the European Commission.

It can't be repeated often enough:

*"Let IMO International Maritime Organisation and the sovereign Member States of the United Nations do their professional work, admittedly slow but steady, free from wishful thinking, obscure ideologies and shallow dreams far from reality!"*

## Know-how Transfer

Red tape is not only paralysing Europe's marine equipment industry, it is also costing Europe its ideas. Know-how and intellectual assets are leaking to competitors in the East (PR of China, Korea, India, Vietnam) and West (USA) via the consultancy divisions of Classification Societies, which are out to make money as their owners want to see huge profits. Intellectual property theft has emerged as the new face of economic crime around the world, in scale greatly exceeding traditional property crime, which historically has been the focus of law enforcement resources. The Commission, governments and businesses have jointly to adjust the proper legal resources as there is definitely a demand for special legislative measures to battle the unintentional transfer of European technology! The import of faked marine equipment accompanied by faked certificates into the Internal Market will continue as long as the European Commission is reluctant to take action.

The article on cutting red tape written by Jake Kavanagh, published in the August-September 2011 bi-monthly IBI News and a lavishly illustrated power point-style case history in the following section, will convincingly give proof of the very challenging situation Europe's marine equipment manufacturing industry is confronted with.

## Is red tape costing Europe its ideas?

Europe's marine equipment industry is in danger of being paralysed by red tape as it hemorrhages ideas to competitors in the East.  
Can it survive?

August 2011 by Jake Kavanagh,  
International Boat Industry, [www.ibinews.com](http://www.ibinews.com)

The European marine equipment industry is facing two major threats, Johannes Kuehmayer, chairman of the Austrian Marine Equipment Manufacturers (AMEM), warns. The first is the burden of red tape on manufacturers caused by multiple certifications. The second is the leaking of ideas to fierce international competitors through the classification societies. Unless action is taken, the European cradle of innovation will suffer a 'silent exodus' from vital work in R&D.

"We are being paralysed by certification," says Kuehmayer, an industry veteran of over 40 years. "Our Asian competitors don't have this problem. Once they get an idea, they pick it up and run with it. They are remarkably unhampered by bureaucracy and red tape. In terms of the speed of idea to market, they are in a Formula 1 racing car, whilst we are in a London taxi."

Kuehmayer has spent his career in leading marketing and sales positions in Austrian-based and multinational service-

*The development of innovative equipment is in danger of being extinguished from overregulation.*

providing companies. He joined AMEM in 1990, and upon retirement from business in 2001, has since put all his efforts into fighting for the rights of European-based equipment manufacturers through his role as AMEM's chairman.

"The development and manufacture of innovative equipment is in danger of being extinguished from overregulation," he





told *IBI*. “Because of the truly global nature of the marine industry, particularly with commercial shipping, we are probably one of the most internationally regulated sectors on earth. Europe is the cradle of innovation, but there are so many rules to comply with that some companies will start to pull out of marine-related research and development altogether. I call it the ‘silent exodus’, and we probably won’t realise it’s happening until it’s too late. Innovation forms the basis for our industry – but we are losing the initiative.”

Kuehmayer blames the classification societies for a lot of the problems, and would like the EU to punch a hole clean through the layers of red tape that are holding back Europe whilst virtually handing our ideas to rivals in the Far East.

### **CLASSIFICATION SOCIETIES**

“Classification societies were originally founded as not-for-profit organisations, and were concerned primarily with safety and loadlines. Today, only one of them, ABS, can still legally claim to be not-forprofit.

All the others are out to make money. Bureau Veritas, for example, is 90 per cent owned by a private investor, and Germanischer Lloyd is owned by an ex-coffee entrepreneur. These owners want to see huge profits, and the easiest way to make those profits is to take the know-how from the industry. Every new idea has to be passed through them for

the green light for use in ships classified to their rules. So they receive first-hand information about new products seeking their approval, often in the form of detailed drawings and schematics. I firmly believe that a lot of this information is then passed over to their offices abroad, and – either accidentally or otherwise – is allowed to appear on the desks of Chinese entrepreneurs, or on those of direct competitors.”

So how does Europe protect its ideas when sensitive information has no choice but to go through the class societies for approval? Kuehmayer believes that part of the problem is that the societies are simply unaccountable. They are effectively a law unto themselves.

“The European Commission has to put more pressure on class societies, because they are a monopolistic arrangement. They can’t be fined or held liable by anyone, and they enjoy government protection, but I don’t know why. The way the class societies work is often to the disadvantage of their own governments by the leaking of ideas to overseas rivals. These then threaten the domestic industry. We, the equipment manufacturers, are not allowed to select a classification. The ship owner selects the class he wants to adhere to, and we have to abide by those rules.”

Another major problem has been the copying and counterfeiting of products, and the issuing of equally counterfeit certificates. Kuehmayer grimly recalls the rumour

that there are some 75,000 Chinese students openly studying the art of counterfeiting as a future career. “I don’t know why they are bothering, when we are handing them our ideas on a plate,” he says.

“The time has come for European marine equipment manufacturers to think about securing their products in the same way that central banks secure their currency. The industry has been far too patient with counterfeiters and illegal producers, expecting their national governments and the European Commission to fix the problem. Organised crime and counterfeiters are ready to attack the European marine equipment industry on a large scale. This is particularly damaging in times of economic depression and steep falling prices for new ship construction.

“The majority of counterfeited marine equipment until now does not cross the borders of the EU or any other right holder country. Instead, the copied products — backed up with certificates — simply ply the seven seas as part of a ship, quite often posing a threat to safety and the environment.”

### **MOUNTAINS OF RED TAPE**

Kuehmayer’s final concern is the mountain of red tape that European companies have to wade through to achieve accreditation for their innovations, a problem that AMEM

recently highlighted when invited to submit a case history to the EU.

“The European Commission listens when you approach them with a problem,” he says. “We presented the case of Steyr-Motors and their colleagues like Volvo the leader in this industry, whose leisure engines are also used to power ships lifeboats. Not only did the company need SOLAS approval, they also had to conform to the RCD directive, the EU Marine Equipment Directive, the EU Class Directive and the IACS UR unified rules, plus the various standards for the inland waterways of the Rhine, the Danube and Lake Constance. Despite achieving SOLAS approval, the engines then had to go through no less than 11 classification societies, who each had their own rules and regulations needing compliance. No other industry — not even aeronautical — has so many different organisations to appease. Jumping through these various hoops ties down skilled engineers in meetings for hundreds of hours, detracting them from important development work.

### **SO WHAT IS THE SOLUTION?**

“When ideas are submitted to class societies, we need a clear understanding that the process is bi-lateral,” says Kuehmayer. “The ideas stay rigidly within the organisation’s local office, not sent all over the world and dropped into the lap of po-

tential competitors. We also need to harmonise the standards amongst the various classification societies, something that is already supposed to be happening.

*The EC has to put more pressure on class societies, because they are a monopolistic arrangement.*

“The protection of intellectual property is also a high priority, especially as information is readily shared amongst European ship and boat-builders. The results of many research projects are also published, rather than patented, which only encourages ‘design arounds’ by overseas producers. Far Eastern companies, however, tend to play their R&D cards very close to their chests.”

We can learn a great deal from the automotive, aeronautical and pharmaceutical industries, which use a system of indemnification of products. This remains one of the cheapest ways of respecting patent rights. But we need to move fast, because whilst we waste time seeking multiple layers of approval, and failing to protect our research, our rivals are taking our ideas to market, and reaping the rewards.



**IBI – International Boat Industry**  
www.ibinews.com



Freelance journalist Jake Kavanagh was born into a boating family and lived for many years by the Thames at Marlow. After a variety of jobs, the river eventually drew him back. Jake joined the Thames Water Authority as a lockkeeper, working the locks around Windsor for four years. Well known as a boating cartoonist, Jake took

over the editorship of a brand new magazine – Motor Boats Monthly in 2001. Having tired of the life in London, he now lives at the South coast and is working as a writer, photographer, cartoonist and film maker. [www.jkcartoons.co.uk](http://www.jkcartoons.co.uk)

The article on cutting red tape written by Jake Kavanagh, published in the August-September 2011 bi-monthly IBI News and a lavishly illustrated power point-style case history in the following section, will convincingly give proof of the very challenging situation Europe's marine equipment manufacturing industry is confronted with.





# European Marine Equipment Manufacturing Industry strongly affected by Red Tape, Multiple Certification and Know-how Transfer

## A Typical Case

Inboard SOLAS diesel engines deployed in life,  
rescue and tender boats as well as workboats  
and pleasure craft



Austrian Marine Equipment Manufacturers

Marketing Forum der österreichischen Marineausstatter

## Class Directive/Regulation – EMEC Negotiating Team

September 12, 2006 · Brussels, Belgium



### EU Parliament Meeting with the Rapporteur

Hauke Schlegel, VDMA

Macarena Barragan

Luís de Grandes Pascual, Rapporteur

Manuel García Gordillo, AEDIMAR

Paola Lancelotti, EMEC Gen. Sec.



### EU Parliament, EMEC Team

Andrea Carta, O'Connor

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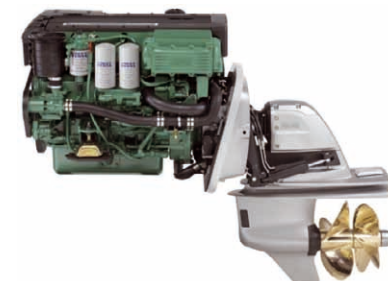
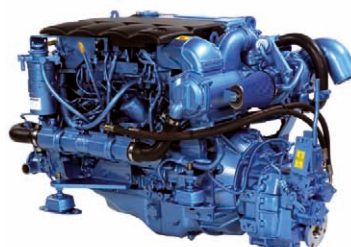
Paola Lancelotti, EMEC Gen. Sec.

John Kuehmayer, AMEM

Manuel García Gordillo, AEDIMAR

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## Type approved suppliers of SOLAS diesel engines



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# Regulation 391/2009/EC Article 10

L 131/16

EN

Official Journal of the European Union

28.5.2009

2. Recognised organisations shall ensure in their contracts with shipowners or operators for the issue of statutory certificates or class certificates to a ship that such issue shall be made conditional on the parties not opposing the access of the Commission inspectors on board that ship for the purposes of Article 8(1).

## Article 10

1. Recognised organisations shall consult with each other periodically with a view to maintaining equivalence and aiming for harmonisation of their rules and procedures and the implementation thereof. They shall cooperate with each other with a view to achieving consistent interpretation of the international conventions, without prejudice to the powers of the flag States. Recognised organisations shall, in appropriate cases, agree on the technical and procedural conditions under which they will mutually recognise the class certificates for materials, equipment and components based on equivalent standards, taking the most demanding and rigorous standards as the reference.

Where mutual recognition cannot be agreed upon for serious safety reasons, recognised organisations shall clearly state the reasons therefor.

Where a recognised organisation ascertains by inspection or otherwise that material, a piece of equipment or a component is not in compliance with its certificate, that organisation may refuse to authorise the placing on board of that material, piece of equipment or component. The recognised organisation shall immediately inform the other recognised organisations, stating the reasons for its refusal.

Recognised organisations shall recognise, for classification purposes, certificates of marine equipment bearing the wheel mark in accordance with Council Directive 96/98/EC of 20 December 1996 on marine equipment <sup>(1)</sup>.

They shall provide the Commission and the Member States with periodic reports on fundamental progress in standards and mutual recognition of certificates for materials, equipment and components.

2. The Commission shall submit a report to the European Parliament and the Council by 17 June 2014, based on an independent study, on the level reached in the process of harmonising the rules and procedures and on mutual recognition of certificates for materials, equipment and components.

3. The recognised organisations shall cooperate with port State control administrations where a ship of their class is concerned, in particular in order to facilitate the rectification of reported deficiencies or other discrepancies.

4. The recognised organisations shall provide to all Member States' administrations which have granted any of the authorisations provided for in Article 3 of Directive 2009/15/EC and to the Commission all relevant information about their classed fleet, transfers, changes, suspensions and withdrawals of class, irrespective of the flag the ships fly.

Information on transfers, changes, suspensions, and withdrawals of class, including information on all overdue surveys, overdue recommendations, conditions of class, operating conditions or operating restrictions issued against their classed ships, irrespective of the flag the ships fly, shall also be communicated electronically to the common inspection database used by the Member States for the implementation of Directive 2009/16/EC of the European Parliament and of the Council of 23 April 2009 on port State control <sup>(2)</sup> at the same time as it is recorded within the recognised organisation's own systems and in any case no later than 72 hours after the event that gave rise to the obligation to communicate the information. That information, with the exception of recommendations and conditions of class which are not overdue, shall be published on the website of these recognised organisations.

28.5.2009

EN

Official Journal of the European Union

L 131/17

5. The recognised organisations shall not issue statutory certificates to a ship, irrespective of its flag, which has been declassified or is changing class for safety reasons, before giving the opportunity to the competent administration of the flag State to give its opinion within a reasonable time as to whether a full inspection is necessary.

6. In cases of transfer of class from one recognised organisation to another, the losing organisation shall, without undue delay, provide the gaining organisation with the complete history file of the ship and, in particular, inform it of:

- (a) any overdue surveys;
- (b) any overdue recommendations and conditions of class;
- (c) operating conditions issued against the ship; and
- (d) operating restrictions issued against the ship.

New certificates for the ship can be issued by the gaining organisation only after all overdue surveys have been satisfactorily completed and all overdue recommendations or conditions of class previously issued in respect of the ship have been completed as specified by the losing organisation.

Prior to the issue of the certificates, the gaining organisation must advise the losing organisation of the date of issue of the certificates and confirm the date, place and action taken to satisfy each overdue survey, overdue recommendation and overdue condition of class.

Recognised organisations shall establish and implement appropriate common requirements concerning cases of transfer of class where special precautions are necessary. Those cases shall, as a minimum, include the transfer of class of ships of 15 years of age or over and the transfer from a non-recognised organisation to a recognised organisation.

Recognised organisations shall cooperate with each other in properly implementing the provisions of this paragraph.





**BUKH**

**BUKH DIESEL**

[www.bukhdiesel.com.au](http://www.bukhdiesel.com.au)

## ABOUT BUKH INTERNATIONAL

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Aabenraa Motorfabrik are OEM manufacturers of BUKH engines and one of the few remaining producers in the world who are not just marinizers of other companies' products, and as such full responsibility for the products rests with us. Moreover, Aabenraa Motorfabrik are suppliers of Bukh+Steyr Solas engines for fast rescue boats. These engines are approved to the Solas/IMO regulations.

...

...

One of our main fields of activity is the international market for lifeboats where the BUKH engines are used by lifeboat builders all over the world. To be supplied to this special market, the engines need to be certified by national maritime authorities as well as classification societies. The BUKH engines have more than 22 different type approvals from various authorities as mentioned above.

Source: [www.bukhdiesel.com.au/about.htm](http://www.bukhdiesel.com.au/about.htm)

## Regulation 391/2009/EC Article 10

Article 10 clearly states:

***Recognized Organisations  
shall cooperate with each other  
in properly implementing  
the provisions of this paragraph***

Remark:

***It is absolutely not the responsibility of the marine equipment manufacturing industry  
to urge classification societies to meet their obligations!***

## IMO



Shipping transcends national boundaries and therefore needs to be addressed through an international forum!

International shipping – unlike land-based industries – which are regulated mainly through national legislation, requires global regulations if it is to function.

The International Maritime Organisation (IMO) – headquartered in London, UK – has been formed to promote maritime safety. It is a special agency of the United Nations with 167 Member States and 3 Associated Members.



## IMO MSC

The Marine Safety Committee is the highest technical body of IMO. It consists of all Member States. The functions of the Maritime Safety Committee are to consider all matters directly affecting maritime safety like aids to navigation, construction and equipment of vessels, maritime safety procedures and requirements, salvage and rescue, marine casualty investigations etc.

The expanded MSC adopts amendments to Conventions such as SOLAS and includes all Member States and even countries which are not IMO Members.



## IMO SOLAS

Life-saving appliances and procedures for abandoning ship are covered by the International Convention for the Safety of Life at Sea (SOLAS).

### The New Chapter III

In 1996, IMO adopted another completely revised version of Chapter III of SOLAS, taking into account changes in technology since the chapter was last revised in 1983.

The new Chapter entered into force in 1998. Specific technical requirements are contained in a new International Life-Saving Appliance (LSA) Code. The LSA Code was adopted by IMO's Maritime Safety Committee (MSC) at its 66th session (June 1996) by resolution MSC.48(66).





## IMO LSA Code

### The International Life Saving Appliance (LSA) Code

#### Lifeboat propulsion

#### Chapter IV

Every lifeboat shall be powered by a compression ignition engine. No engine shall be used for any lifeboat if its fuel has a flashpoint of 43 Deg. C or less (closed cup test).

The engine shall be provided with either a manual starting system, or a power starting system with two independent rechargeable energy sources. Any necessary starting aids shall also be provided. The engine starting system and starting aids shall start the engine at an ambient temperature of -15 Deg. C within 2 min of commencing the start procedure unless, in the opinion of the Administration having regard to the particular voyages in which the ship carrying the lifeboat is constantly engaged, a different temperature is appropriate.

The speed of a lifeboat when proceeding ahead in calm water, when loaded, with its full complement of persons and equipment and with all engine powered auxiliary equipment in operation shall be at least 6 knots and at least 2 knots when towing a 25-person life-raft loaded with its full complement of persons and equipment or its equivalent. Sufficient fuel, suitable for use throughout the temperature range expected in the area in which the ship operates, shall be provided to run the fully loaded lifeboat at 6 knots for a period of not less than 24 hours.

Water resistant instructions for starting and operating the engine shall be provided and mounted in a conspicuous place near the engine monitoring panel.



## IMO SOLAS Chapter III Resolutions

IMO has adopted numerous recommendations and guidelines relating to survival at sea, in the form of Resolutions and Circulars. While these are not mandatory – it is up to each Member State to decide on implementing them.

They form a core element of the technical recommendations issued by IMO and many are accepted as industry standards even though not mandatory.



## IMO and Recreational Craft

### General

The International Maritime Organization does not define the term pleasure craft in the Convention on International Regulations for Preventing Collisions at Sea, 1972 (COLREGs). Each Member State has its own definition and applies the IMO Guidelines as appropriate. The pleasure craft sector is generally less regulated than SOLAS Convention (COLREGs) and ISPS-regulated vessels. Where regulations do exist they are mainly focused on safety.

### Security

The security threat posed by vessels that fall outside the scope of the International Ship and Port facility Security Code (ISPS Code) and SOLAS Chapter XI-2, including pleasure craft, was deemed to be significant enough for IMO to make recommendations to enhance security. The Guidelines are not mandatory and are not intended to form the basis for a mandatory instrument. They provide information and best practice guidance for owners, operators and users of non-SOLAS vessels. Member states are invited to consider these non-mandatory Guidelines and take action as appropriate.

### IMO MSC.1/Circ. 1283

22 December 2008

### Appendix D

Non-mandatory guidelines on security aspects of the operation of vessels which do not fall within the scope of SOLAS Chapter XI-2 and the ISPS Code

Categories of vessels to be covered by the Guideline.

- ▶ commercial non-passenger and special purpose vessels
- ▶ passenger vessels
- ▶ fishing vessels, and
- ▶ **pleasure craft**

The guidance is formatted in two parts:

### Part 1

Information of interest to Member States and other authorities with responsibility for administering non-SOLAS vessels.

### Part 2

Information pertinent to the owners, operators and users of non-SOLAS vessels and related facilities.



## IMO MEPC

The Marine Environment Protection Committee (MEPC), which consists of all Member States, is empowered to consider matters concerned with prevention and control of pollution of ships.

IMO has been constantly engaging itself in the fight to protect and preserve the environment – both marine and atmospheric – through its Marine Environment Protection Committee.

Addressing the climate challenges is far from easy, as there are many difficult and complex issues involved, not just from a technical point of view, but also from a political perspective.

Remark:

*The European Commission would be well advised to abandon the plan of global leadership in maritime affairs in general, and the debate on emission reductions of maritime transport in particular!*

*Let IMO and the sovereign UN Member States do their professional work, admittedly slow but steady, on a global basis, in a pragmatic approach to extremely sensitive issues!*



## IMO MARPOL

IMO ship pollution rules are contained in the “International Convention on the Prevention of Pollution from Ships”, known as MARPOL 73/78. The MARPOL Convention has been amended by the 1997 Protocol, which includes Annex VI titled “*Regulations for the Prevention of Air Pollution from Ships*”.

The IMO emission standards are commonly referred to as Tier I...III standards.

The Tier I standards were defined in the 1997 version of Annex VI and entered into force on May 2005, while the Tier II/III standards

- ▶ New fuel quality requirements beginning from July 2010
- ▶ Tier II and III NO<sub>x</sub> emission standards for new engines
- ▶ Tier I NO<sub>x</sub> requirements for existing pre-2000 engines

were introduced by Annex VI amendments adopted in 2008.

Remark:

*In anticipation of the Annex VI ratification, most marine engine manufacturers have been building engines compliant with the Tier I standards since 2000.*





## IMO and shipping emissions

All shipping flag states are treated equally under IMO rules, while in other forums such as the UNFCCC concessions are made to the needs of developing states.

Shipping is not covered by the UN's Kyoto Protocol and a new global climate treaty is still under debate, meaning the industry does not currently have any mandatory emissions laws.

The world's shipping industry accounts for over 2.7 % of total carbon emissions! However, it plays a predominant role in the global economy, transporting over 90% of global trade.

Like the aviation industry, the world's maritime nations either need to find an emissions reduction solution within the IMO framework or face the possibility of less sympathetic regulations from elsewhere, primarily the European Union. The shipping and aviation sectors have been charged with coming up with mechanisms to cut emissions under the existing UN Framework Convention on Climate Change (UNFCCC).

At the meeting in March 2010, the IMO's Marine Environment Protection Committee (IMO MEPC) had endorsed a package of efficiency measures, specifically a mandatory Energy Efficiency Design Index (EEDI) and a Ships Energy Efficiency Management Plan (SEEMP). No consensus could be reached so far.

Remark:

*The worst outcome for a global industry like shipping would be to have differing emissions reduction schemes being imposed in different places. Unfortunately some trading blocks, individual states or even just ports bring shipping into their regional schemes for reducing emissions and particulate matter (PM)!*



## ECA Emission Control Areas

Two sets of emission and fuel quality requirements are defined by MARPOL Annex VI:

- ▶ global requirements
  - ▶ more stringent requirements applicable to ships in so called ECAs – Emission Control Areas
- An Emission Control Area can be designated for SO<sub>x</sub>, NO<sub>x</sub> or PM, or all three types of emissions from ships.

Existing Emission Control Areas include:

- Baltic Sea (SO<sub>x</sub>) ECA entered into force 2005
- North Sea (SO<sub>x</sub>) ECA entered into force 2006
- North American ECA (SO<sub>x</sub> and NO<sub>x</sub>) 2010/2012
- US and Canadian coast lines

**Emission Control Areas will be established in the Caribbean in the near future!**

Remark:

*This will not affect cruise ships but all the commercial ships transporting essential goods to this area!*

*Disintegration of maritime emission requirement legislation is steadily progressing!*



## IMO and COP 15 Copenhagen 2009

### Green House Gases (GHG)

#### IMO Assembly A.963(23)

Annex VI does not cover the emission of greenhouse gases from ships. In November 2003, the IMO adopted resolution A.963(23) on IMO Policies and Practices related to the Reduction of Greenhouse Gas Emissions from ships. The second IMO GHG Study *“Prevention of air pollution from ships”* estimated a share of 3.3 per cent in GHG emissions, which – during the Copenhagen Conference in December 2009 – obviously turned out to be not attractive enough for being seriously recognised by the world’s leaders.



## IMO and COP 16 Cancun 2010

Remark:

*The author refrains from commenting the United Nations  
Climate Change Conference COP 16 Cancun.*

## Flag States

Once a ship is registered, the Flag State has certain duties laid out in UNCLOS United Nations Convention on the Law of the Sea. In particular, under Article 94, the Flag state must effectively exercise its jurisdiction and control in administrative, technical and social matters over ships flying its flag and take such measures for ships flying its flag as are necessary to ensure safety at sea.

International Conventions have been agreed, setting out uniform standards to facilitate acceptance of a ship registered in one country in the waters and ports of another and in the general furtherance of safety at sea and protection of the environment. These standards are commonly referred to as “statutory” requirements. The Recognised Organisation (RO) is responsible and accountable to the Flag Administration for the work that it carries out on its behalf.



## Recognized Organisations Classification Societies

Functions and responsibilities of Classification Societies are twofold.

On the one hand Classification Societies express their opinion mainly towards the ship owner about the degree of his ship's compliance with the technical rules, both statutory and self regulated rules and regulations, on the other hand they execute a public service on the basis of an authorization by the Flag State in certifying the compliance of national ships and international regulations concerning ship's safety.

This expanded role of the Classification Societies, being placed among the preventive measures of maritime safety as it aims to avert ship's accidents, no longer constitutes a simple private matter between itself and the other contracting parties (ship owners, ship builders, charterers, buyers, insurers, equipment manufacturers), but is of great interest to the public benefit as well, as it may result in serious financial consequences for persons who are not on board the ship and have no relation to it, especially when the above role is not performed in an impartial, trustworthy and effective manner.

Source: [www.ejcl.org](http://www.ejcl.org)

Remark:

*Classification Societies have been serving the most significant needs of commerce – **speed and safety!***

*Think only about the Tea Clippers in former days and container vessels these days!*

*As Classification Societies strongly support the climate change hype, ironically enough they are spreading the gospel of “slow steaming” and high risk cost saving measures in ship building (goal based standards) and operation (cost of ownership), which – in the long run – compromise on safety in general and engine room safety in particular!*

# **IACS** **International Association of Classification Societies**

## General

The International Association of Classification Societies (IACS) is a gathering of 11 classification societies, headquartered in London. IACS is a non-governmental organisation which is allowed to develop guidances for the International Maritime Organization. Based on its observer status, IACS is able to develop and apply rules.

In establishing its rules, each Classification Society may draw upon the advice and review of members of the industry who are considered experts in their field.

Competition between Societies must be on the basis of services (technical and field) rendered to the marine industry – it must not lead to compromises on safety of life and property at sea or to the lowering of technical standards.

Remark:

*As an independent, self-regulating, externally audited body, a Classification Society should not have commercial interests related to ship design, shipbuilding, ship ownership, ship operation, ship management, ship maintenance and repair, insurance, or chartering.*

*See „Conflicts of interest“*

# IACS International Association of Classification Societies

## Members

	<b>ABS</b> American Bureau of Shipping	<a href="http://www.eagle.org">www.eagle.org</a>		<b>KR</b> Korean Register of Shipping	<a href="http://www.krs.co.kr">www.krs.co.kr</a>
	<b>BV</b> Bureau Veritas	<a href="http://www.veristar.com">www.veristar.com</a>		<b>LR</b> Lloyd's Register of Shipping	<a href="http://www.lr.org">www.lr.org</a>
	<b>CCS</b> China Classification Society	<a href="http://www.ccs.org.cn">www.ccs.org.cn</a>		<b>NK</b> Nippon Kaiji Kyokai	<a href="http://www.classnk.or">www.classnk.or</a>
	<b>DNV</b> Det Norske Veritas	<a href="http://www.dnv.com">www.dnv.com</a>		<b>RINA</b> Italian Register of Shipping	<a href="http://www.rina.org">www.rina.org</a>
	<b>GL</b> German Lloyd	<a href="http://www.gl-group.com">www.gl-group.com</a>		<b>RS</b> Russian Maritime Register of Shipping	<a href="http://www.rs-head.spb.ru">www.rs-head.spb.ru</a>
	<b>IRS</b> Indian Register of Shipping	<a href="http://www.irclass.org">www.irclass.org</a>			

# IACS

## IACS International Association of Classification Societies

### Code of Ethics

*Classification Societies are no longer “not for profit” organizations, they have mutated into big money making machines these days. They maintain significant research departments and are one of the major leakage sources of the European marine equipment industry’s intellectual property. Code of Ethics therefore are relics of bygone days.*

### Conflicts of interest

*The Board of Directors of Italy’s Classification Society RINA for example, is composed of former top executives of shipping companies, insurance companies (Generali), shipowners (d’Amato), shipbuilders (Fincantieri), and the like. Lots of commercial interests involved in this organisation recognized frivolously by the European Union and the majority of flag states all over the world! The example of the Italian classification society RINA is indicative and therefore worth mentioning. Initially it was a public entity, In 1947 it was restructured into a legal person under private law. In 1969 it finally took the form of a Societa Anonyma (SA). Remark: Commercial interests in other Classification Societies like Bureau Veritas (private equity firm Wendel Investissement) or German Lloyd (former owner of Tchibo) are by no means different!*

### Contractual Liability

*Within the main maritime legal systems – except the system of the United States – court decisions dealing with Classification Societies’ contractual liability matters are rare. This is mainly attributed to the fact that Classification Societies’ clients (ship owner) avoid filing lawsuits against them for a variety of reasons. (Source: [www.ejcl.org](http://www.ejcl.org)) Remark: There exist – for good reasons – no contractual agreements between Classification Societies and equipment manufacturers!*

### Cartel

*One of the most controversial relics of protectionism is IACS – the “cartel” of 11 Classification Societies well protected by the full blessing of IMO, the Flag States and their Administrations! Having said the above, it should be noted that IACS is an association of businesses. As a result, the agreements and decisions of its members are likely to limit or to impair competition within the market . See Art 81 §1 European Communities Treaty (ECT), Source: [www.ejcl.org](http://www.ejcl.org) Remark: Not to mention the dawn raids in January 2008 and the ordered retreat of DG Competition in the cartel case. IACS in fact is the genuine antithesis to the principles of a single market!*

## Notified Bodies

### General

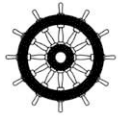
Based on designated requirements such as knowledge, experience, independence, and resources to conduct the conformity assessments, a Notified Body will be nominated by a Member State and notified by the European Commission.

Conformity assessments can be

- ▶ Inspection
- ▶ Quality Assurance
- ▶ Type Examination
- ▶ Design Examination

Remark:

*Almost all Classification societies are accredited notified bodies by the Member States and the European Commission!*



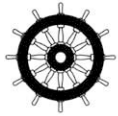
## **MED** **Marine Equipment Directive**

MarED is the coordinating group for the Notified Bodies (NB) assigned by the EU Member States to carry out the conformity assessment procedures referred to the Marine Equipment Directive (MED) Council Directive 96/98/EC of 20 December 1996 on Marine Equipment. From the EU perspective, all accredited Notified Bodies are entitled to certify under the MRA, together with the USCG United States Coast Guard on the other end. The USCG is the only Conformity Assessment Body (CAB) in the US, together with the independent laboratories it has recognised.

Remark:

*All European Classification Societies are not only EU Recognized Organizations but also EU Notified Bodies.*

List of Notified Bodies under the MED, see Annex I



## **MED** **Marine Equipment Directive**

The Marine Equipment Directive (MED) 96/98/EC as amended covers certain statutory equipment carried and used on ships registered under the flags of the European Union member states plus Norway and Iceland which are required to meet the 4 International Conventions developed by the International Maritime Organisation (IMO) namely

- |                    |      |                               |
|--------------------|------|-------------------------------|
| ▶ <b>LOADLINES</b> | 1966 |                               |
| ▶ <b>SOLAS</b>     | 1974 | <b>Life-saving appliances</b> |
| ▶ <b>MARPOL</b>    | 1973 | Marine Pollution              |
| ▶ <b>COLREGS</b>   | 1972 | Prevention of Collisions      |



# MRA

## Mutual Recognition Agreement

### Mutual Recognition

A Mutual Recognition Agreement (MRA) between the U.S. and the European Commission on marine equipment was signed on February 27, 2004. The agreement establishes the conditions under which the importing Party's Regulatory Authority shall accept the Certificates of Conformity issued by the exporting Party's Conformity assessment Bodies (CAB) in accordance with the technical regulations of the exporting Party, hereinafter referred to as "mutual recognition".

### Determination of equivalence and products

Both the EU Member States and the US have to a very large degree based their respective technical regulations related to marine equipment on the international conventions on maritime safety and marine pollution prevention established within the International Maritime Organisation (IMO) in particular the safety of Life at sea (SOLAS) and MARPOL (Prevention of Pollution from ships) Convention, together with the relevant test methods, e.g. those of the ITU, ISO and IEC referred to in IMO Resolutions, Circulars, Codes, etc.

## MRA

### Objectives of the MRA

Allow manufacturers of marine equipment to reach multiple markets on the basis of compliance with one set of regulatory requirements instead of multiple ones, as would be the case without the MRA. The intention was that this will lead to a reduction of costs for manufacturers in terms of testing and certification.

A company that receives approval of their product under the US – EC Mutual Recognition Agreement is able to market that product in the US, the EC countries and the EEA EFTA countries. The application of the Agreement covers ships in international voyage that are entitled to fly the flag of one of the parties or one of the parties' Member States. The MRA is based on the Marine Equipment directive 96/98/EC.

### Annex A1 of the MED

43 products are listed in Annex A1 of the MED in the three main categories:

- ▶ life saving equipment (e.g. life and rescue boats)
- ▶ fire protection
- ▶ navigational equipment



## EU Maritime Legislation

### General

#### 3<sup>rd</sup> ERIKA Package

The Erika legislative packages of the European Union are maritime laws intended to improve safety in the shipping industry and thereby reduce environmental damage to the oceans. The packages are named after the oil tanker *Erika*, which broke apart in a storm in the Bay of Biscay off the coast of France in 1999 polluting 400 kilometers of coastline.

The third and final maritime safety package addressed primarily flag states, classification societies and civil liability.



Directive 2009/21/EC

Regulation 391/2009/  
Directive 2009/15/EC

Directive 2009/16/EC

Directive 2009/17/EC

Directive 2009/18/EC

Regulation 392/2009/

Directive 2009/20/EC

Flag States

Classification Societies  
(mutual recognition)\*

Port State Control

Traffic Monitoring

Accident Investigation

Passenger Carrier Liability

Ship Owner Insurance

Remark:

\* *Approved classification societies are obliged to cooperate and recognize each other's classification certificates when the relevant regulations are equivalent.*

## Compatibility of European and International Standards

There was a widespread perception among European as well as international stakeholders that the single European market needed to be integrated into the wider, global market and that this could best be achieved by ensuring that the standards used to regulate the single European market were also those which regulated the global market. The immediate response to this request was the development of an agreement on the exchange of technical information between ISO and CEN (called the *Lisbon Agreement*, approved in 1989) which provided for full and mutual exchange of information between ISO and CEN European Committee for Standardization on their respective activities.

Another major consideration was to make rational use of the resources available for standardization by avoiding duplication of work – this meaning that there had to be agreement on work allocation between ISO and CEN. With this in mind, it seemed that what was needed was a set of procedural mechanisms to try to ensure that, to the largest possible extent, International Standards and European Standards are compatible or, even better, identical (*Vienna Agreement*, 1991)



## **EU Maritime Legislation**

### **Class Directive**

#### **Regulation 391/2009/EC**

Common rules and standards for ship inspection and survey organisations Mutual Recognition (Article 10)

**Directive 2009/15/EC**

**Directive 94/57/EC**

Regulation and Directive as part of the so called 3<sup>rd</sup> ERIKA Package.

### **MED Marine Equipment Directive**

**Directive 2008/67/EC**

**Directive 2002/75/EC**

**Directive 96/98/EC**



## EU Maritime Legislation

### NLF New Legislative Framework Directive

#### New Approach Directives

##### The Commissions point of view:

The decision by the European Union to formulate legislation in terms of very general essential requirements – the *"New Approach to technical harmonization and standards"* (resolution of the Council of the European Union, 7 May 1985), and require that the so-called "New Approach Directives" be supported by a portfolio of European voluntary standards, was an extremely significant event in the history of modern standardization. Through this decision, governments gave explicit recognition of the role that standards can fulfil in achieving a political objective (e.g. the creation of the single European market).

##### The industry's point of view:

New Approach Directives might have contributed to the political objective of creating a single market, but the large diversity of different rules, regulations and standards, boosted by the climate change hype and the ignorance of the classification societies to accept each others type approval and test certificates, has a negative impact on the competitiveness of the individual companies! Class is pushing for more legislation as this is increasing their business!

**Many companies have therefore given up manufacturing products for the single European market due to excessive cost burdens and production numbers well below their economy of scale. The silent exodus of European manufacturing companies!**



## EU Maritime Legislation

### RCD Recreational Craft Directive

**Directive 2003/44/EC (“New” RCD)**

**Directive 94/25/EC (“Old” RCD)**

### General

The Directive defines recreational craft as boats of any type, regardless of their means of propulsion.

Recreational craft marketed in the European Union must comply with harmonised technical safety and environmental requirements and meet a number of administrative obligations defined by Directive 94/25/EC, as amended.

These safety and environmental requirements, known as Essential Requirements (ER), address the design and construction of craft with a hull length of 2.5 to 24 meters, and set limits for their exhaust and noise emissions. The

Directive requires the boat and engine manufacturer to keep a technical file of all relevant data and to officially declare the conformity of his product. A CE marking must be affixed on the product and the manufacturer has to provide users with detailed information about safe use and Maintenance through a builder's plate and owner's manual.

As part of the harmonisation of product certification within the European Economic Area (EEA), the EC-Directive on Recreational Craft 94/25/EC was implemented in 1998, and amended by Directive 2003/44/EC in 2005. This trade directive amends 94/25/EC to include engine exhaust and noise emissions plus some amendments to design and construction aspects.

### Conformity assessment

The directive requires conformity assessment to be carried out before the “Declaration of Conformity” (CE-marking) must be issued by the manufacturer or his representative.





## EU Maritime Legislation

### RCD Recreational Craft Directive cont.

#### Design Categories

The design and construction requirements of the Directive cover structural integrity, handling characteristics and installation. For this purpose, four design categories have been established.

Category	Significant Wave Height	Beaufort
A – Ocean	exceeding 4 meters	exceeding 8 Beaufort
B – Offshore	up to 4 meters	up to 8 Beaufort
C – Inshore	up to 2 meters	up to 6 Beaufort
D – Sheltered	up to 0.5 meters	up to 4 Beaufort

Remark :

*A Notified Body has no involvement in any Category D vessels, but it has a mandatory involvement in Categories A and B using module Aa*

#### Module Description

- A Internal Production Control
- Aa Internal Production +Tests
- B EC Type Examination
- C Conformity to Type
- D Product Quality Assurance
- F Product Verification
- H Full Quality Assurance

#### Bilateral Agreements

The EU has concluded Mutual Recognition Agreements with the USA and Canada aimed at facilitating the export of European built recreational craft to these countries.

Switzerland has also based its national legislation to a very large extent on the provisions of the EU Recreational Craft Directive (RCD).



## **EU Maritime Legislation**

### **Requirements for accreditation and market surveillance**

#### **Regulation 765/2008/EC**

This internal market regulation is dealing with the “ethics” and requirements of national accreditation bodies and notified bodies. The main objective of this Regulation is to strengthen the systems that support conformity assessment in “New Approach” European Union technical harmonisation legislation and standards.

The Regulation lays down a comprehensive framework for accreditation by the Member States based on principles for its operation and organisation at Community level. Where Community harmonisation legislation provides for the selection of conformity assessment bodies for its implementation, transparent accreditation should be considered by the national public authorities.

A system of accreditation which functions by reference to binding rules helps to strengthen mutual confidence between Member States as regards the competence of conformity assessment bodies and consequently the certificates and test reports issued by them. It thereby enhances the principle of mutual recognition and therefore the provisions of this Regulation on accreditation should apply in relation to bodies carrying out conformity assessment to both the regulated and the non-regulated areas.

National accreditation bodies should not have the objective of maximising or distributing profits. Competition between national accreditation bodies could lead to the commercialisation of their activity, which would be incompatible with their role as the last level of control in the conformity assessment chain. The objective of this Regulation is to ensure that within the European Union, one accreditation certificate is sufficient for the whole territory of the Union, and to avoid multiple accreditation, which is added cost without added value.



## European Inland Navigation EU Legislation

### Engines installed in Inland Waterway Transport Vessels

#### Non-road Directive

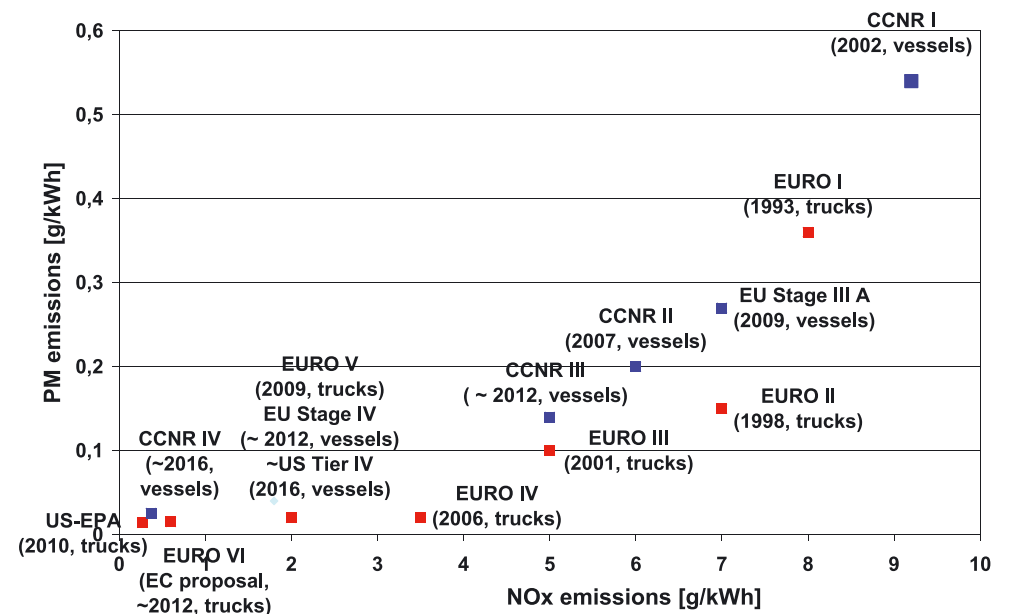
2004/26/EC (EU Stage IIIA)

97/68/EC

Emissions of gaseous and particulate pollutants from internal combustion engines to be installed in non-road mobile machinery. This Directive applies to propulsion engines and all auxiliary engines with a rated power of greater than 560 kW used in inland waterway vessels. It became effective by reciprocity agreement with CCNR Stage II on 1 July 2007.

Stage III/IV limits are harmonized with the US Tier 3/4 standards.

#### Emission Regulations – IWT/Road



Source: [www.via-donau.org](http://www.via-donau.org)



## European Inland Navigation EU Legislation

### Directive – Technical Requirements for Inland Waterways Vessels

2009/46/EC

2008/126/EC

2008/87/EC

2006/137/EC

2006/87/EC

82/714/EEC

Council Directive 82/714/EEC of 4 October 1982 laying down technical requirements for inland waterway vessels introduced harmonised conditions for issuing technical certificates for inland waterway vessels in all Member States, albeit excluding operations on the Rhine. The technical requirements set out in the annexes to Directive 82/714/EEC essentially incorporate the provisions laid down in the Rhine Vessel Inspection regulation in the version approved by the Central Commission for Navigation on the Rhine (CCNR) in 1982. Not only for competition and safety reasons, but also in the interests of promoting harmonisation at European level, to adopt the scope and content of such technical requirements for the whole of the community's inland waterway network.

### Fuel Quality

Sulphur content of all fuels used for inland water transport: 10mg/kg fuel (=10ppm) in 2011

### Directive – Reduction in the sulphur content of certain liquid fuels

2005/33/EC

1999/32/EC

93/12/EEC

Maximum sulphur content of all fuels for inland water transport: 1000 ppm (= 0.1%) since January, 2010

### Directive – Quality of petrol and diesel fuels

2000/71/EC

98/70/EC

93/12/EEC



## ISO International Organization for Standardization

### General

**ISO International Organization for Standardization** – headquartered in Geneva, Switzerland – is the world's largest standards developing organization. ISO has published more than 18000 international standards between 1947 and the present day.

### Harmonized standards

Harmonized standards are European standards which are adopted by European standards organisations, prepared with the General Guidelines agreed between the Commission and the European standards organisations. The standards are developed by ISO in Geneva.

Remark:

*As the majority of companies supply their products to the single market and the rest of the world, they have to comply with both the harmonized EU standards and the individual standards of regulators like ISO, IEC etc.!*



## ISO International Organization for Standardization

### EN ISO 3046

Reciprocating internal combustion engines-Performance

### EN ISO 8665

Small craft – Marine propulsion reciprocating internal combustion engines – Power measurements and declarations

### EN ISO 9001

Quality Management System

### EN ISO 14001

Environmental Management System

Remark:

*The vast majority of ISO Standards are highly specific to a particular product, material or process.*

*However, ISO 9001 (Quality) and ISO 14001 (Environment) are “generic management system standards”. Generic means that the same standard can be applied to any organization.*



## **ISO** **International Organization for Standardization**

### **Noise emissions**

#### **EN ISO 14509 – 1:2008**

Small craft – Airborne sound emitted by powered recreational craft – Part1: Pass-by measurement procedures

#### **EN ISO 14509 – 2:2006**

Small craft – Airborne sound emitted by powered recreational craft – Part 2: Sound assessment using reference craft

#### **En ISO 14509 – 3:2009**

Small craft – Airborne sound emitted by powered recreational craft – Part 3: Sound assessment using calculation and measurement rocedures

#### **EN ISO 15584:2001**

Small craft – Inboard petrol engines – Engine mounted fuel and electrical components

#### **EN ISO 15609:2008**

Small craft – LPG equipment and accessories – LPG propulsion systems for boats and yachts

#### **EN ISO 16147:2002**

Small craft – Inboard diesel engines – Engine mounted fuel and electrical components



## European Inland Navigation ISO Legislation

### ISO 8178

International standard for non-road engine marine applications





## European Inland Navigation River Rhine Legislation

**Central Commission for Navigation on the Rhine (CCNR)**  
**Zentralkommission für die Rheinschifffahrt (ZKR)**  
<http://ccr-zkr.org>

### General

The Central Commission for Navigation on the Rhine dates back to the final act of the 1815 Congress of Vienna. Today, it is based on the so-called Mannheim Act of 1868, now in its 1963 version. The Commission is the oldest still-active European international organisation. The main tasks of the Central Commission are to ensure the freedom of navigation on the Rhine and its tributaries, and to maintain a uniform legal regime governing navigation along the full length of the river. The most important activity of the Central Commission is the updating of technical regulations for Rhine shipping to meet the most recent developments. These regulations are set out in the ordinances of the Central Commission for Navigation on the Rhine. The organisation is headquartered in Strasbourg.

CCNR Stage 2 regulated diesel engine emissions limits became effective July 1, 2007.

### Members

The Netherlands, Belgium (although not situated along the Rhine), Germany, France and Switzerland are members of the Central Commission. Each member state chairs the Committee by rotation. Committee resolutions must be made unanimously.

### Central Commission and the European Union

Both the Central Commission and the European Union want to promote inland waterways navigation as a relatively friendly form of transportation. While responsibility for the river Rhine shipping lies exclusively with the Central Commission, the EU assumes major responsibilities for inland waterways navigation in other regions (Central and Eastern Europe).

### Rheinschifffahrtspolizeiverordnung RheinSchPV

Mindestanforderungen und Prüfbedingungen für Navigationsradaranlagen und Wendeanzeiger in der Rheinschifffahrt sowie deren Einbau zur Anpassung an europäische Richtlinien zur elektromagnetischen Verträglichkeit (Electromagnetic Compatibility) sowie einschlägige europäische und weltweite Normen und zur Neuordnung der Regelwerke der Zentralkommission.



## European Inland Navigation River Rhine Legislation

**International Commission for the Protection of the Rhine (ICPR)**

**Internationale Kommission zum Schutz des Rheins**  
**Commission internationale pour la Protection du Rhin**  
**Internationale Commissie ter Bescherming van de Rijn**  
[www.iksr.org](http://www.iksr.org)

### General

The program Rhine 2020 determines general policy objectives for the Rhine protection and the measures required for implementing the focal aspects like the restoration of the habitat patch connectivity along the Rhine, the improvement of flood prevention and the improvement of the water quality, as well as the protection of the ground water. In addition to that – the implementation of the Water Framework Directive (WFD) 2000/60/EC and the Floods Directive 2007/60/EC. The International Commission for the Protection of the Rhine is headquartered in Koblenz, Germany.

### Members

Switzerland, France, Germany, Luxembourg, the Netherlands and the European Commission form the International Commission for the Protection of the Rhine (ICPR). They closely cooperate with Austria, Liechtenstein, the Belgian region of Wallonia and Italy.

# European Inland Navigation River Rhine Legislation

## Rhine Vessel Inspection Regulation

### Rheinschiffverkehrsuntersuchungsordnung RheinSchVO

#### Chapter 8a, Annex J

Emission of gaseous pollutants and particulate matter from diesel engines

#### Kapitel 8a, Anhang J

Emission von gasförmigen Schadstoffen und luftverunreinigenden Partikeln von Dieselmotoren



## European Inland Navigation River Danube Administration

**Danube Commission**

[www.danubecommission.org](http://www.danubecommission.org)

### General

The Danube Commission is concerned with the maintenance and improvement of navigation of the Danube river, in conformity with the Danube Convention of 1948 from its source in Germany to its outlets in Romania and the Ukraine, leading to the Black Sea. Members include representatives from eleven riparian countries: Austria, Bulgaria, Croatia, Germany, Hungary, Moldova, Slovakia, Romania, Russia, Ukraine, and Serbia.

The Commission dates back to the Paris Conference of 1856, which established for the first time an international regime to safeguard free navigation on the Danube. Its headquarters are in Budapest, Hungary.

Among the primary duties are:

- ▶ Consulting with and making recommendations to the special administrations charged with various stretches of the river and exchanging information with them
- ▶ Establishing a uniform system of traffic regulations on the whole navigable portion of the river Danube
- ▶ Unifying the regulations governing river, customs and sanitary inspection
- ▶ **Harmonizing regulations on inland navigation with the European Union and with the Central Commission for the Navigation on the Rhine**

## **European Inland Navigation River Danube Administration**

**Viadonau**

[www.via-donau.org](http://www.via-donau.org)

### **General**

Viadonau, a company owned by the Federal Ministry of Transport, Innovation and Technology, is the national operator of the Austrian section (351 km) of the Danube waterway.

The primary duties of viadonau are:

- ▶ Waterway administration & maintenance
- ▶ Traffic management
- ▶ Development of inland navigation
- ▶ **National contact point for EU legislation and funding**

## European Inland Navigation Lake Constance Legislation

**Lake Constance Ordinance 1976,**  
amended 2005

### General

The Lake Constance Ordinance of 1976 was the very first non-road engine legislation in Europe.

The EU Directive 2003/44/EC is not applicable on Lake Constance for recreational crafts and commercial vessels in principle because of the specific sensitivity of Lake Constance not only as a source of supply for drinking water.

### Application

Recreational craft and commercial vessel operating on Lake Constance, propelled by internal combustion engines (spark and compression ignition)

### Countries

Austria, Germany and Switzerland



### Art.13.11

Internal combustion engines

Art .13.11a

Exhaust gas emissions

### Authority

**Internationale Schifffahrtskommission für den Bodensee**

Decisions to be transposed into national regulations by Austria and Switzerland, into regional legislation in Germany by Bavaria and Baden-Wuerttemberg. Engines certificates will be issued by Swiss EMPA Eidgenoessische Material-Pruefungsanstalt and Schifffahrtsamt Konstanz, boat certificates are issued by the local administrations in Bregenz (AT), Frauenfeld (CH), Friedrichshafen (DE), Konstanz (DE), Lindau (DE) and St. Gallen (CH).

### Scope

Internal combustion engines for pleasure craft and commercial vessels , workboats and barges operating on Lake Constance. Exempt are customs, police, fishery supervision vessels and emergency craft.



## European Inland Navigation Swiss Legislation

### Binnenschiffahrtsgesetz (BSG)

SR 747.201

### Binnenschiffahrtsverordnung (BSV)

SR 747.201.1

### Verordnung über die Abgasemissionen von Schiffsmotoren auf schweizerischen Gewässern (SAV)



## U.S. Emission Standards

### General

Emission standards are managed by the Environmental Protection Agency (EPA) in the United States. The state of California has special dispensation to promulgate more stringent emission standards, and other states may choose to follow either the national or California standards.



**Environmental Protection Agency (EPA)**  
[www.epa.gov](http://www.epa.gov)

EPA is an agency of the federal government of the United States charged with protecting human health and the environment, by writing and enforcing regulations based on laws passed by Congress. The White House maintains direct control over the EPA, and its enforcements are subject to the political agenda of who is in power.



**California Air Resources Board (CARB)**  
[www.arb.ca.gov](http://www.arb.ca.gov)

California's emission standards are set by the California Air Resources Board, known locally by its acronym "CARB". Their rule making has broader implications within the U.S., as several other U.S. States also choose to follow the CARRB standards. CARB's policies have strongly influenced EU emission standards.



## U.S. Maritime Legislation Enforcement

**United States Coast Guard**

[www.uscg.mil](http://www.uscg.mil)

### General

The United States Coast Guard (USCG) is a branch of the United States Armed Forces and one of seven U.S. uniformed services.

The Coast Guard is a maritime, military, multi-mission service unique among the military branches for having a maritime law enforcement mission (with jurisdiction in both domestic and international waters) and a federal regulatory agency mission as part of its mission set. It operates under the Department of Homeland Security since 2003 during peacetime, and can be transferred

To the Navy by the President or Congress during time of war.

### Missions of the USCG

Section 888 of the Homeland security act of 2002 defines the Coast Guard's missions as either non-homeland security missions or homeland security missions. The eleven statutory missions as defined by law are:

#### Non-Homeland Security Missions (Legacy missions)

- ▶ Search and Rescue (SAR)
- ▶ Aids-to-Navigation (ATON)
- ▶ Ice Operations
- ▶ Living Marine Resources (LMR) (Fisheries Law Enforcement)
- ▶ Marine Environmental Protection

#### Homeland Security Missions

- ▶ Ports, Waterways, and Coastal Security (PWCS)
- ▶ Drug Interdiction
- ▶ Undocumented Migrant Interdiction
- ▶ Defence Readiness
- ▶ Other Law Enforcement



## U.S. Maritime Legislation Enforcement (cont.)

### Maritime Safety

Safeguarding the lives and safety of its citizens is a fundamental responsibility of the U.S. Government. In the maritime arena, this duty falls mainly to the United States Coast Guard.

### Marine Safety

The Coast Guard is America's voice in the International Maritime Organization, which suggests measures to improve shipping safety, pollution prevention, mariner training, and certification standards and regulations, various types of plan review and compliance inspections for ship construction, repair, and alteration. The Coast Guard develops and enforces vessel construction standards as well as domestic shipping and navigation regulations. It inspects mobile and fixed off-shore installations, drilling rigs, and marine facilities for safety.

In its function of a **National Recreational Boating Safety Coordinator**, the Coast Guard works to minimize loss of life, personal injury, property damage, and environmental harm associated with this activity. The boating safety program involves public education initiatives, regulation of boat design

and construction, approval of boating safety equipment, and vessel safety checks for compliance with federal and state safety requirements. Eliminating substandard vessels from U.S. Ports and waterways is a key element of the Coast Guard's **Port State Control Program**.

### Maritime Accident and Casualty Investigations

In addition to responding to a variety of maritime accidents and emergencies, the Coast Guard also investigates their causes! This illustrates the state within the state power of the "universal talent" U.S. Coast Guard!

Remark:

*Although the Coast Guard is a great example for EMSA, such an enormous agglomeration of power of a single maritime law enforcement organisation is unimaginable and unachievable from a European point of view! A governmental authority must not be allowed of checking the checker! Not even in coordination/cooperation with the **National Transportation Safety Board (NTSB)**!*



## **U.S. Maritime Legislation Enforcement (cont.)**

### **The USCG and ABS**

As the regulatory burden imposed by the International Maritime Organization (IMO) is constantly increasing, the mandates of ABS are getting larger reflecting the USCG's desire to outsource more and more responsibilities.

In accordance with the authority granted by 46 U.S.C. § 2104 and § 3316, the USCG is authorized to delegate to the ABS the initial inspection for certification, subsequent inspection for certification, periodic re-inspection and examination of vessels and the measurement and the certification of tonnages for vessels of the United States. In addition to that the Coast Guard accepts the review and approval of vessel plans by the ABS in the same manner as if approved by the Coast Guard.



## USCG accepted SOLAS lifeboat / rescue boat engines

### Model year 2010 Accepted SOLAS Lifeboat / Rescueboat Inboard Diesel Engines meeting US EPA Tier II or higher emission requirements

- ▶ Aabenraa Motorfabrik (Bukh)
- ▶ Nanni Industries
- ▶ SABB Motor
- ▶ STEYR MOTORS
- ▶ AB Volvo Penta

### Previously accepted SOLAS Inboard Diesel Engines that do not meet US EPA Tier II emission standards

- ▶ A.R.S. (Anglian Diesel)
- ▶ Perkins Power
- ▶ Cummins Marine
- ▶ Lister Petter Marine



## U.S. Government Recognized Organization

### ABS American Bureau of Shipping

[www.eagle.org](http://www.eagle.org)

#### General

ABS was known initially as American Shipbuilders' Association. Its name was changed to American Bureau of Shipping in 1898, and it was formally recognized in the Merchant Marine Act of 1920. ABS is a tax-exempt, not-for-profit, non-governmental organization (NGO) chartered under the laws of the State of New York, having no capital stock and paying no dividends. All funds generated from fees for classification services are used solely for the performance of such services. ABS has been commissioned by the U.S. Government and the U.S. Coast Guard to act in many maritime matters that relate to the safety of life, property at sea and the protection of the marine environment.

#### Statutory Services

ABS also acts as a Recognized Organization on behalf of more than 100 maritime Flag States globally. A Recognized Organization is authorized by a Flag State to conduct plan

review and statutory surveys on ships registered under that flag on behalf of the nation's maritime administration.

#### Classification

The largest body of ABS work, by far, comes from fleet owners themselves who contract with ABS for its expertise in classification work.

#### ABS Group of Companies

ABS is led by Chairman Robert Somerville and is parent to the ABS Group of Companies, a for-profit subsidiary supplying risk assessment and management systems services for marine and industrial clients.

#### ABS and the US Coast Guard

ABS has been maintaining a long and close relationship with the US Coast Guard. The development of the Alternative Compliance Program (ACP) expanded the scope of plan review and inspection activities delegated to ABS and eliminated the duplication of tasks performed by both the USCG and ABS.



## **U.S. Certification & verification / testing organization**

**Underwriters Laboratories (UL)**

[www.ul.com](http://www.ul.com)

### **General**

Underwriters Laboratories Inc. (UL) is an independent, product safety certification and verification organization headquartered in Northbrook, Illinois. UL has developed more than 1.000 standards for safety. UL Verification Services provides customized performance and verification testing of products based on buyer's defined parameters or customer-accepted specifications.

With offices, testing facilities and accreditations around the world, UL offers access to markets not only the US and Canada, but also in Mexico, Europe, Australia, China, Japan, South America and other regions.

UL claims to issue multiple certifications for different markets on the basis of a single test plan.



## U.S. Military Standards

United States Department of Defense (DOD)

[www.defense.gov](http://www.defense.gov)

### MIL STD 810

#### General

The military standard MIL-STD-810 series of test methods are issued by the United States Army's Development Test Command. The current document revision (2009) is Revision G (i.e. MIL-STD-810G) which was issued on October 31, 2008. It superseded Revision F (MIL-STD 810F) released on January 1, 2000 and which was last updated on May 5, 2003.

#### Electromagnetic Compatibility (EMC)

MIL-STD-462 Version C Method CE01

EN 61000-6-3

#### Vibration

MIL-STD-810F, Method 514.5 Vibration (constant acceleration)

### MIL STD 461F

Requirements for the control of electromagnetic interference (EMI) characteristics of subsystems and equipment (superseding MIL-STD-461D, MIL-STD-462D and MIL-STD-461E).

#### Single fuel policy

##### DOD

To simplify fuel operations, the Department of Defense (DOD) has adopted a single-fuel concept (SFC) that requires U.S. Forces to use only one fuel while deployed. The DOD issued a directive on fuel standardization in March 1988 that specified JP( as the primary fuel for air, land and marine forces.

##### NATO

The North Atlantic Treaty Organization has also a single fuel policy and has selected diesel for this purpose.



## Worldwide fuel specifications for diesel engines

Fuel Specifications		Designated Fuels	Fuel Specifications		Designated Fuels		
American Standard	ASTM D975	No. 1-D	Australian Standard	AS 3570	Automotive diesel fuel		
	ASTM D396	No. 2-D fuel oil	Japanese Standard	JIS K2204	Type 1 (spl) fuel oil		
	ASTM D2880	No. 1 fuel oil and No. 2 fuel oil engine and No. 2-GT fuel for the gas turbine engine			Type 1 fuel oil		
British Standard	BS 2869	Class A1 diesel fuel Class A2 diesel fuel Class B1 diesel fuel Class C2 fuel for heating and Class D fuel for heating			U.S. Government	W-F-800C W-F-815C	Type 2 fuel oil
							Type 3 fuel oil
							Type 3 (spl) fuel oil
			U.S. DE-1 diesel fuel				
			U.S. DF-1 diesel fuel				
German Standard	DIN 51601	Diesel fuel	U.S. Military Standard	MIL-L-16884G	U.S. DF-2 diesel fuel		
	DIN 51603				U.S. DF-20 diesel fuel		
					FS-1 fuel oil for heating and FS-2 fuel oil for heating		
					Marine Oil		

## Acceptable Kerosene Fuels for marine diesel engines

Specifications	Designated Fuels
ASTM D 1655-80	Aviation Turbine Fuel
MIL-DTL- 83133F	Aviation Turbine Fuel ( <b>JP-8</b> )
NATO Code No. F-34	
British Specification STAN 91-87 AVTUR/FSII	
W-F-800F1	Frade DF-A (Arctic)

### JP-8

Jet Propellant 8 (JP-8) is produced from jet fuel A and A- 1, which are used in commercial aircraft and are readily available throughout the world. The U.S. Department of Defence identified JP-8 as its single military fuel in the 1980s already, but the conversion has been gradual because of the need to modify engines and other equipment. JP-8 is a multipurpose kerosene based fuel and complies with the “single fuel policy” of US and NATO military forces. JP-8 is widely used in marine propulsion plants.

The multiplicity of fuels is not desirable from a logistic standpoint, neither for naval nor for commercial vessels. Naval forces tend to follow a single fuel concept for the propulsion of ships much more consequently. Although the unique character of Navy surface ships and their fuel systems imposes special requirements, the Navy’s fuel should, nevertheless, be similar to commercial distillate fuels not only for assurance of availability but also for economic reasons!

New emission regulations in commercial shipping create changes which both the Navy and the maritime industry can not accommodate that easy! Whereas commercial shipping is abandoning a single fuel policy as a consequence of the GHG emission hysteria, US and NATO forces are still in the process of finalizing the conversion to JP-8/F-34.



## Military Standards

### North Atlantic Treaty Organization – NATO

[www.nato.int](http://www.nato.int)

#### Standardization

NATO Standardization Agreements for procedures and systems as well as equipment components, known as STANAGs, are developed and promulgated by the NATO Standardization Agency in conjunction with the Conference of National Armaments Directors and other authorities concerned.

The Standardization Agreements Collection contains more than 4.400 documents and is classed in three segments:

- ▶ Standardization Agreements (STANAGs)
- ▶ Allied Quality Assurance Publications (AQAPs)
- ▶ Miscellaneous Standardization Documents

#### Marine diesel engines related documents:

- ▶ NATO AECTP\*) 500 Electrical/electromagnetic Tests – ED 3
- ▶ NATO STANAG 3731 Electromagnetic Compatibility (EMC) – ED 4
- ▶ NATO STANAG 4435 Electromagnetic Compatibility Testing Procedure for Naval electric / electronic equipment
- ▶ NATO STANAG NATO Standard Engine Laboratory Test for diesel and gasoline engines and gas turbines ED 1

\*) AECTP Allied Environmental Conditions and Test Publication