EuropeAid /114385/D/SV/CY Project

Assessment and administration capacity building for the harmonisation with the New Approach directives

SEMINAR on New Approach Directives

March 8+9, 2004 in Nicosia

RC

Recreational Craft Directive

94/25/EC

Session 1

What is the RCD?

- Results from internet search for “RCD”
  1 Radio Controller Devices
  2 Residual Current Device
  3 Real Club Deportivo
  4 Rassemblement Constitutionnel Démocratique
  5 Rabbit Calicivirus Disease
  6 Restorative & Cosmetic Dentistry
- The “RCD” is not well known
  – even to the European boating industry!

The RCD is…..

- Legislation setting minimum safety standards
- ***Current*** Scope:
  - Annex I:
    Recreational craft from 2.5m to 24m hull length
  - Annex II:
    Key components of recreational craft:
    - Fuel tanks & hoses
    - Steering system components
    - Hatches & portlights
    - Start-in-gear protection (for outboard motors)
    - Ignition protected (electrical components)

Key Dates

- Laid before Parliament: 16 June 1994
- Adoption by Member states: 16 June 1995
- Coming into force: 16 June 1996
  - Compliance with RCD optional from this point
- Implementation: 16th June 1998
  - Mandatory from this point

Why the RCD?

- The boat builders asked for RCD
- Difficulties in trading boats across Europe
- Allegations of market protectionism within the “single market”
- UK was one of the most keen nations
  - Resulting Directive more than expected
- Note: these are not safety concerns!

Craft Excluded from RCD Scope: 1

- craft intended solely for racing
  - including rowing racing boats and training rowing boats labelled as such by the manufacturer
- canoes, kayaks, gondolas and pedalos;
- sailing surfboards;
- powered surfboards, personal watercraft and other similar powered craft;

Craft Excluded from RCD Scope 2

- original, and individual replicas of, historical craft designed before 1950
  - built predominantly with the original materials and labelled as such by the manufacturer;
- experimental craft
  - provided that they are not subsequently placed on the Community market

Craft Excluded from RCD Scope 3

- craft built for own use
  - provided that they are not subsequently placed on the Community market for 5 years;
- craft specifically intended to be crewed & to carry passengers for commercial purposes;
- submersibles;
- air cushion vehicles; or
- hydrofoils.

Not All Craft Are Equal

- Some are for river use, others cross oceans
- Technical demands are not the same
- Risk needs to be “categorised”
- Level of risk needs to dictate:
  - Technical demands of Standards
  - Degree of 3rd party certification/verification

RCD Design Categories

- Defined by wave height & wind speed

Ref. & Description	Wave Height	Beaufort
• A – Ocean: Must also be “largely self-sufficient”	> 4m	> 8
• B – Offshore:	≤ 4m	≤ 8
• C – Inshore:	≤ 2m	≤ 6
• D – Sheltered:	≤ 0.5m	≤ 4

Design Category	C (Inshore)
Assessment Module	G

Design Category	C (Inshore)
Assessment Module	A

Design Category	C (Inshore)
Assessment Module	A

Design Category	A (Ocean)
Assessment Module	B+C

Design Category	A (Ocean)
Assessment Module	G

Design Category	A (Ocean)
Assessment Module	G

Summary of Scope

- Craft with hull length between 2.5m & 24m
  - Craft with certain “specific uses” are excluded
  - All craft must be assigned a Design (risk) Category
- Key components of recreational craft

Amendment of RCD

- Put before Council in 2003
- First requirements mandatory 1 Jan. 2005
- Scope changed to include:
  - Annex I: Personal Watercraft (PWC)
    - i.e. Jet-Skis
  - Annex II: Propulsion Engines

When does RCD apply?

- The EU Product Directive Mantra:
  - "EU (product) Directives apply at the *first point of sale* or *first putting into service* in the EEA"
- Imposes RCD responsibility on:
  - Builders
  - Distributors
  - Owners

Session 2

Discharging RCD Responsibilities

- A duty holder complies with the RCD when he/she can ***adequately demonstrate*** that the product meets the applicable ***Essential Safety Requirements***
- **How does one *adequately demonstrate*?**
- **What are *Essential Safety Requirements*?**

Essential Safety Requirements

- 30 in 5 sections:
  - Design:
    - Boat Design Categories
    - Integrity and Structural Requirements
    - Handling Characteristics
  - Production:
    - General Requirements
    - Installation Requirements

ESR Observations

- Do not cover operation or usage
  - No requirement to carry safety equipment
    - Only need a suitable location for liferaft & fire extinguishers
  - No restrictions for usage:
    - to navigate within design category conditions
    - to remain within a given distance of shore
- Not all ESRs are safety related
  - e.g. Hull Identification Number (HIN)
    - to provide identification after theft

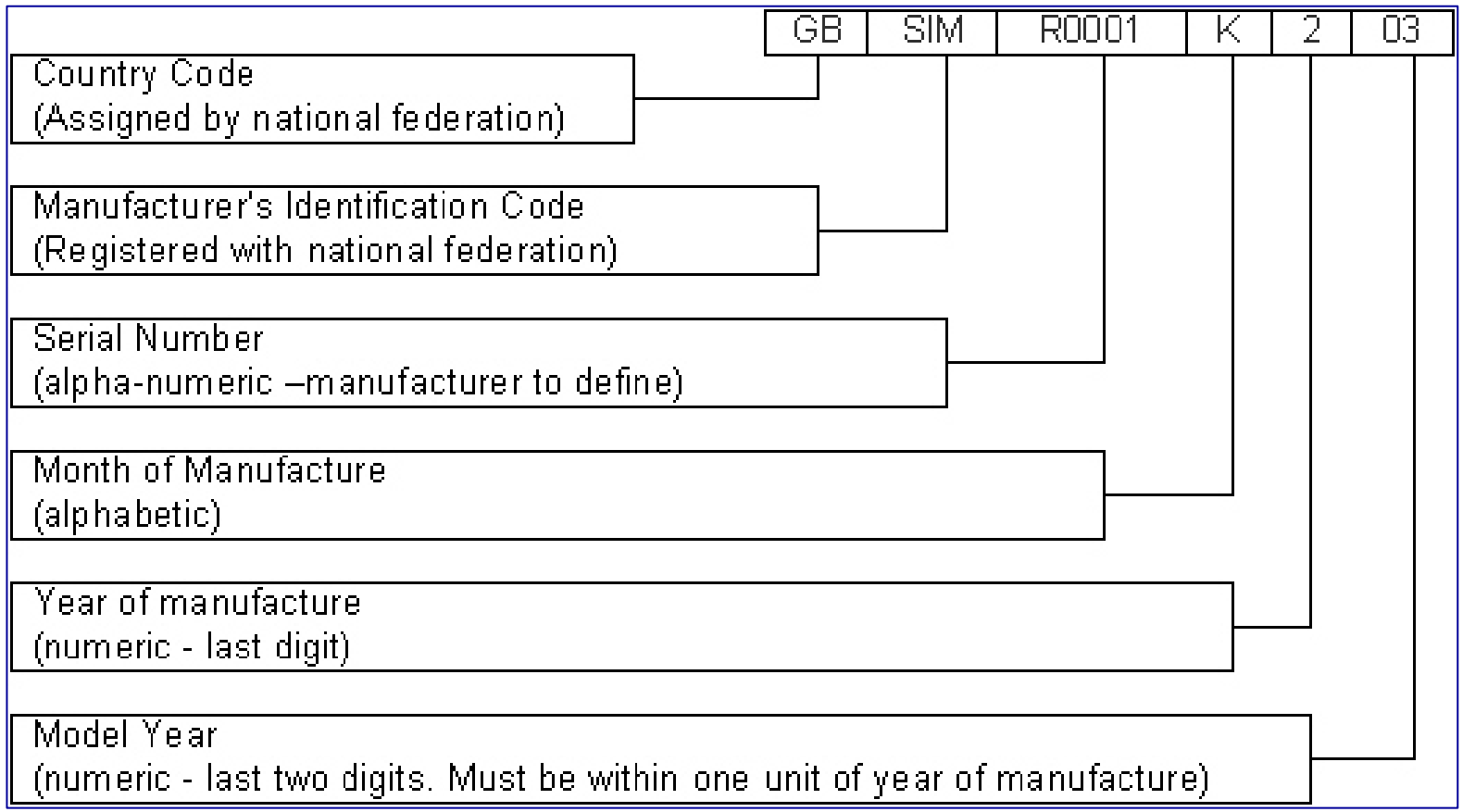
ESR Observations - 2

- ESRs are non-prescriptive in nature
  - e.g. ESR 3.1, Structure:
    - “The choice & combination of materials & its construction shall ensure that the craft is strong enough in all respects”
- Very difficult to measure compliance

ESRs in Detail - 1

- 2.1 Hull Identification
  - EN ISO 10087 Hull identification coding system
  - to become Craft ID (CIN) with amendment
- Beware of dating a boat by the HIN
- Beware of judging the country of origin from the HIN
  - Incomplete imports

Hull Identification Number



ESRs in Detail - 2

- 2.2 Builder's Plate
  - FDIS 14945 Builder's plate - under amendment to resolve safety concerns regarding loading
- 2.3 Protection from falling overboard and reboarding
  - "Designed to minimise the risk of falling overboard"
  - FDIS 15085 Man overboard prevention and recovery
- 2.4 Visibility from the main steering position
  - "For motor boats, good all-round visibility"
  - EN ISO 11591 Engine-driven small craft - Field of vision

Demonstrations Needn’t be Clever

ESRs in Detail - 3

- 2.5 Owner's Manual
  - EN ISO 10240 Owner's manual - Under revision
- 3.1 Structure
  - "The choice and combination of materials and construction shall ensure the craft is strong enough in all respects"
- 3.2 Stability and freeboard
    - "sufficient stability and freeboard for its design category"
- 3.3 Buoyancy and flotation
    - "buoyancy characteristics appropriate" and "flotation required if less than 6m long and susceptible to swamping"

Design Category	C (Inshore)
Assessment Module	Aa (now A)

ESRs in Detail - 4

- 3.5 Flooding
  - “designed to minimise the risk of sinking”
- 3.4 Openings in hull, deck and superstructure
  - “windows, doors and hatches shall withstand water pressure likely to be encountered”
- 3.6 Manufacturers maximum recommended load
  - Currently “includes fuel, water, provisions, equipment and people, *as marked on the Builder’s plate”*
  - Amendment to Directive excludes fluids from Builder’s Plate

ESRs in Detail - 5

- 4 Handling Characteristics
  - “The manufacturer shall ensure that the handling characteristics of the craft are satisfactory with the most powerful engine for which the boat is designed and constructed”
  - “maximum rated engine power shall be declared in the owner’s manual”
- 5.1 Engines and engine space
  - “Installed to minimise risk of fire, hazards from fumes, noise”
  - “Engine compartment shall be ventilated”

ESRs in Detail - 6

- 5.2 Fuel system
  - “designed to minimise risk of fire and explosion”
  - “insulated from engine compartment (petrol)”
- 5.3 Electrical systems
  - “Installed to minimise risk of fire and electric shock”
- 5.4 Steering systems
- 5.5 Gas system
  - EN ISO 10239 LPG systems

ESRs in Detail - 7

- 5.6 Fire protection
  - Amendment clarifies current practice: fire extinguishers need not be in place but location and capacity to be defined in Owners Manual
- 5.7 Navigation lights
  - 1972 COLREG or CEVNI
- 5.8 Discharge prevention
  - “provision for holding tanks”
  - A holding tank itself need not be fitted
  - Key requirement to “seal shut” the final discharge valve

Annex II Components

- Ignition protected equipment for inboard and stern drive engines
- Start-in-gear protection devices for outboard engines
- Steering wheels, steering mechanisms and cable assemblies
- Fuel tanks and fuel hoses - new standard for fuel tanks
  - Question over portable fuel tanks
- Prefabricated hatches and portlights

Harmonised Standards

- Created by CEN to support the Directive
- Different standards support different ESRs
- Provide the prescriptive detail missing in the Directive's ESRs
- All EU member states must:
  - adopt these as their own National Standards
  - Remove any of their own conflicting standards
- The standard is now "harmonised" across the EU

Harmonised Standards for RCD

- Mostly one standard for each ESR
- Easy to measure compliance:
  - Compliance with a standard = ESR ✓

Design Category	D (Sheltered)
Assessment Module	A

Alternatives to harmonised standards

- Harmonised Standards are not mandatory
- BUT harmonised standards carry a *presumption of conformity*
  - Nobody can dispute whether a boat complies with the Directive if it conforms to harmonised standards
- Alternative solutions must demonstrate *equivalent safety*
  - Difficult to demonstrate beyond doubt
  - Any authority has the right to raise such a doubt
  - Unfamiliar features on a boat are likely to raise doubt
    - features that do not conform to harmonised standards will be presumed not to conform by inspectors

Session 3

Discharging RCD Responsibilities

- A duty holder complies with the RCD when he/she can ***adequately demonstrate*** that the product meets the applicable ***Essential Safety Requirements***
- **How does one *adequately demonstrate*?**
- **What are *Essential Safety Requirements*?**

Adequate Demonstration

- Technical Construction File
- Owners Manual
- Declaration of Conformity
- A Builder’s Plate with CE marking
- Notified Body Certificate
  - for some craft

Technical Documentation

- Directive says:
  - “Technical documentation shall enable the conformity of the products with the requirements of the Directive to be assessed. It shall, as far as relevant for such assessment, cover the design, manufacture and operation of the product.”

Technical Documentation - 2

- Evidence of conformity to standards for each ESR
  - Descriptions - drawings/photos
  - Test results
  - Calculations
  - Details of alternative solutions with demonstrations of equivalent safety
- A technical file must be produced for every model
  - unless a formal, certified quality system for design is operated by the builder – very rare!
  - The TCF must be held for 10 years

Owners Manual (OM)

- Required by ESR 2.5
- Must be provided with each boat
- EN ISO 10240 defines contents and layout
- Many harmonised standards suggest text for inclusion

Declaration of Conformity

- The unequivocal statement of compliance with one or more directives
- To include a list of applied standards
- Signed by the builder or his representative who should be clearly identified
- Must be provided with each boat
- Standard Template recently issued
  - following lobbying by ICOMIA

Declaration of Conformity • Recreational Craft • directive 94/25/CE

Name of the manufacturer

Adress

Zip code _____ City _____

Country (code) _____ (printed) _____

A ☐ **Aa** ☐ **B+C** ☐ **B+D** ☐ **B+F** ☐ **G** ☐ **H** ☐

Module used (check)

IF THE DECLARATION IS MADE BY AN AUTORISED REPRESENTATIVE

Authorised representative established in the EEA territory

Adress

Zip code _____ City _____

Country (code) _____ (printed) _____

IF INTERVENTION OF A NOTIFIED BODY

Name Code

Adress

Zip code: _____ City _____

Country (code) _____ (printed) _____

If EC type-examination certificate has been issued (certificate number and date yr/mo/day) _____, ___ / ___ / ___

DESCRIPTION OF THE CRAFT

Hull identification number (HIN) ☐☐ ☐☐☐☐☐☐☐☐☐☐☐☐

Brand name of the craft

Type or number ..... : _____

Design category ..... : _____

Type of boat ..... : _____

Type of hull ..... : _____

Deck ..... : _____

Construction material ..... : _____

Propulsion ..... : _____

Type of engine ..... : _____

Maximum recommended engine power (kW) ..... : _____/_____

Hull length and width (m) ..... : _____

Draught (m)

I declare at my own responsability that the boat mentioned above complies with all applicable essential requirements in the way specified on the opposite side

Name Printed

Date (yr/mo/day)

• Type of boat
01 • sailboat
02 • inflatable
03 • other: _____

Skrovtyp • Type of hull:
01 • monohull
02 • multihull
03 • other: _____

Konstruktionsmaterial • Construction material:
01 • aluminium, aluminium alloys
02 • plastic, fiber reinforced plastic
03 • steel, steel alloys
04 • wood
05 • other: _____

• Propulsion:
01 • sails
02 • petrol engine
03 • diesel engine
04 • electrical motor
05 • oars
06 • other: _____

• type of engine:
01 • outboard
02 • inboard
03 • z or sterndrive (embase relevable)
04 • other: _____

• Deck
01 • decked
02 • partly decked
03 • open

Essential requirements (ref. to relevant article in Annex 1 of the Directive)	Harmonised standards used	ISO-standards used	Other normative document used	See the technical file
• General requrements (2)				
• Hull Identifikation Number – HIN (2.1)				
• Builder's Plate (2.2)				
• Protection from falling overboard and means of reboarding (2.3)				
• Visibility from the main steering position (2.4)				
• Owner's manual (2.5)				
• Structure (3.1)				
• Stability and freeboard (3.2)				
• Buoyancy and floatation (3.3)				
• Openings in hull, deck and superstructure (3.4)				
• Flooding (3.5)				
• Manufacturer's maximum recommended load (3.6)				
• Liferaft stowage (3.7)				
• Escape (3.8)				
• Anchoring, mooring and towing (3.9)				
• Handling characteristics (4)				
• Engines and engine spaces (5.1)				
• Inboard engine (5.1.1)				
• Ventilation (5.1.2)				
• Exposed parts (5.1.3)				
• Outboard engine starting (5.1.4)				
• Fuel system (5.2)				
• General – fuel system (5.2.1)				
• Fuel tanks (5.2.2)				
• Electrical systems (5.3)				
• Steering systems (5.4)				
• General – steering system (5.4.1)				
• Emergency arrangements (5.4.2)				
• Gas systems (5.5)				
• Fire protection (5.6)				
• General – fire protection (5.6.1)				
• Navigation lights (5.7)				
• Discharge prevention (5.8)				

The CE Marking

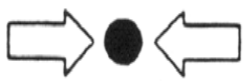
Model Name

Category **C**

Max  = 8

Max  +  = 750 kg

Max  = 66 kW (90 hp)

Max  = 2.5 bar (36 p.s.i.)

CE

0466

Manufacturer Name Address etc.

Summary of Requirements

- A boat complies with the RCD when it can *adequately demonstrate* that it meets the applicable *Essential Safety Requirements*
  - Adequate Demonstration:
    - Technical Construction File
    - Owners Manual
    - Declaration of Conformity
    - A CE marking
    - For some craft, a certificate from a Notified Body

Notified Bodies - Description

- Conformity Assessment Bodies (CAB)
- Appointed for specific Directive(s)
- Appointed for specific Modules
- Issue certificates for compliant products

Appointment of NoBos

1. The body, its director and the staff responsible for carrying out the verification tests shall not be the designer, manufacturer, supplier or installer of boat or components which they inspect, nor the authorized representative of any of these parties. They shall not become either involved directly or as authorized representatives in the design, construction, marketing or maintenance of the said products. This does not preclude the possibility of exchanges of technical information between the manufacturer and the body.

Appointment of NoBos

2 The body and its staff shall carry out the verification tests with the highest degree of professional integrity and technical competence and shall be free from all pressures and inducements, particularly financial, which might influence their judgement or the result of the inspection, especially from persons or groups of persons with an interest in the result of verifications.

Appointment of NoBos

3. The body shall have at its disposal the necessary staff and possess the necessary facilities to enable it to perform properly the administrative and technical tasks connected with verification; it shall also have access to the equipment required for special verification.

Appointment of NoBos

4. The staff responsible for inspection shall have:
   - sound technical and professional training,
   - satisfactory knowledge of the requirements of the tests they carry out and adequate experience of such tests,
   - the ability to draw up the certificates, records and reports required to authenticate the performance of the tests.

Appointment of NoBos

5. The impartiality of inspection staff shall be guaranteed. Their remuneration shall not depend on the number of tests carried out or on the results of such tests.

Appointment of NoBos

6. The body shall take out liability insurance unless its liability is assumed by the State in accordance with national law, or the Member State itself is directly responsible for the tests.

Appointment of NoBos

7. The staff of the body shall be bound to observe professional secrecy with regard to all information gained in carrying out its tasks (except vis-à-vis the competent administrative authorities of the State in which its activities are carried out) under the Directive or any provision of national law giving effect to it.

Appointment of Notified Bodies

- Required credentials:
  - Experienced in the industry
  - Independent from the industry
  - Able to deliver consistent service
  - Must operate in line with EN45000 series
- Appointed by Government
  - Assessed by national accreditation service
- Government “notifies” Commission

Notified Bodies - Operation

- Commission issues ID number & circulates news of appointment
- Appointing Government responsible for ongoing assessment of Notified Body
- Body may trade world-wide
- Decisions of Notified Body must be recognised throughout Europe
  - unless there is reason to suspect error

Summary

- Scope & Exclusions
- Compliance with harmonised standards = Compliance with Directive
- Documentation to demonstrate compliance
- CE Marking
- Notified Body Certificate?

Conformity Assessment Modules

- Choice of Conformity Assessment Modules

Category	**A**	**B**	**C**	**D**
L_H<12m	Aa		A if "harmonised" stability standards are applied, Aa if not	A
$L_H \geq$12m	B+C or B+D or B+F or G or H			

Modules - Full Range

Module	Design	Production	Stability Testing
A	Manufacturer's internal control		
Aa	Manufacturer's internal control		NB test prototype
B +	NB review TCF	-	NB test prototype
+ C	-	Manufacturer's internal control	
+ D		NB audit Quality Systems	
+ F		NB to inspect samples of production	
G	NB review TCF	NB inspect & test every unit	
H	NB audit Quality Systems		

Modules - Useful Range!

Module	Design	Production	Stability Testing
A	Manufacturer's internal control		
Aa	Manufacturer's internal control		NB test prototype
B +	NB review TCF	-	NB test prototype
+ C	-	Manufacturer's internal control	
G	NB review TCF	NB inspect & test every unit	

Module A (Annex V)

INTERNAL PRODUCTION CONTROL

- *The manufacturer or his authorized representative ensures and declares that the products concerned satisfy the requirements of the Directive*
  - affix the CE marking to each product
  - draw up a written declaration of conformity
  - establish the technical documentation
    - and keep it for a period ending at least 10 years
  - take measures necessary to ensure compliance of the manufactured products with the technical documentation

Module Aa (Annex VI)

INTERNAL PRODUCTION CONTROL + TESTS

- As Module A +
  - Following tests, calculation or control shall be carried out by the manufacturer or on his behalf:
    - test of stability according to ESR 3.2
    - test of buoyancy characteristics according ESR 3.3
  - To be carried out on the responsibility of a notified body
    - chosen by the manufacturer.
  - On the responsibility of the notified body, the manufacturer shall affix the former's distinguishing number during the manufacturing process.

Module B (Annex VII)

EC TYPE EXAMINATION

- *A notified body ascertains and attests that a specimen, representative of the production envisaged, meets the provisions of the Directive that apply to it.*
  - The application for EC type-examination shall be lodged with a notified body & include:
    - a written declaration that the same application has not been lodged with any other notified body,
    - the technical documentation
  - The applicant shall place a specimen of the “type” at the disposal of the notified body
  - The notified body may request further specimens if needed for carrying out the test programme.

Module B (Annex VII)

EC TYPE EXAMINATION

- The notified body shall:
  - examine the technical documentation,
  - verify that the type has been manufactured in conformity with the technical documentation
  - perform or have performed the appropriate examinations and necessary tests
  - (if compliant) issue an EC type-examination certificate

Module B (Annex VII)

EC TYPE EXAMINATION

- If the manufacturer is denied a type certification, the notified body shall provide detailed reasons for such denial.
- The applicant shall inform the notified body of all modifications to the approved product which must receive additional approval.

Module C (Annex VIII)

CONFORMITY TO TYPE

- *The manufacturer or his authorized representative declares that the products care in conformity with the type as described in the EC type-examination certificate and satisfy the requirements of the Directive that applies to them.*
  - The manufacturer shall:
  - affix the CE marking to each product
  - draw up a written declaration of conformity
  - take measures necessary to ensure the manufacturing process assures compliance of the products with the type as described in the EC type-examination certificate.

Module G (Annex XI)

UNIT VERIFICATION

- *The manufacturer ensures and declares that the product concerned, which has been issued with the certificate referred to in point 2, conforms to the requirements*
- The manufacturer shall:
  - affix the CE marking to each product
  - draw up a written declaration of conformity
- The notified body shall:
  - examine the individual product and carry out tests
  - affix, or cause to be affixed, its distinguishing number
  - draw up a certificate of conformity

Other Modules

- D - Production Quality Assurance (Annex IX)
  - similar to ISO 9002
- F - Product Verification (Annex X)
  - Sampling of production by Notified Body
- H - Full Quality Assurance (Annex XII)
  - Similar to ISO 9001

Modular Choice

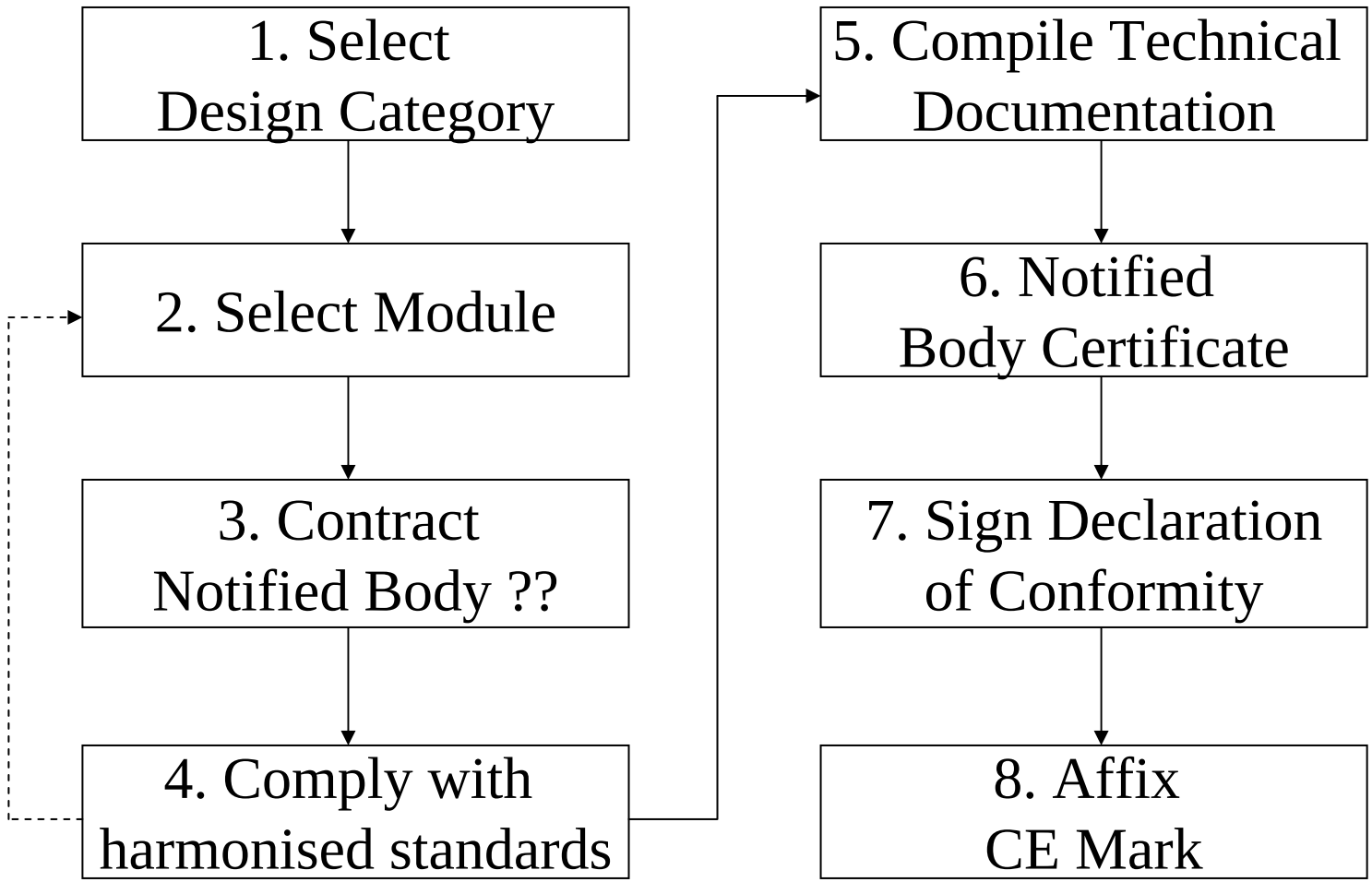
- Modules must be applied as shown

Category	**A**	**B**	**C**	**D**
L_H<12m	Aa		A if "harmonised" stability standards are applied, Aa if not	A
$L_H \geq$12m	B+C or B+D or B+F or G or H			

- Amendment allows upward choice

Session 4

Summary of the Process



Part Built Boats

- Annex IIIa Declaration
  - from each builder in the chain of production
- Declaration must contain details of the work undertaken and the standards applied
- Craft may not be CE marked until completion
- HIN could be issued by any party in the production chain

Difficulties of Application

- New & Global Approach Directives apply same principals to a wide range of products
- But boats are different:
  - Designed to move between nations
    - in and out of EEA
  - Commonplace for owners to home-build

Anomalies of RCD Scope

- Home-Built Boats
- Boats built from “kits”
- Conversions (e.g. ex racing craft)
- Boats imported from outside EU
- Boats visiting from outside EU
- How to prove a craft is excluded from RCD?

Home-Built Boats

- Only excluded when not sold for 5 years after completion
  - Not excluded during the 5 years
- Transfer of ownership constitutes a “sale”
  - even if no money changes hands
- A CE mark enhance re-sale value
  - particularly for home-built boats where builder has no reputation

Kit Boats

- RCD has no special requirements
- Following options apply:
  - Manufacturer may issue CE marks
    - where satisfied of build quality
    - Up to manufacturer as to how satisfaction is measured!
  - Assemblers may affix their own CE mark

Conversions

- If craft are modified such that
  - their designed mode of operation changes
    - e.g. commercial barge refitted for leisure use
  - they are effectively a new craft
- they should comply with RCD

Boats from outside EU

- Compliance is required post construction:
  - If put into service in the EEA for the first time after June 1998
  - If put on the market in EEA for the first time after June 1998
  - If built after 1950
- Compliance not required if boat has been in service in EU waters before June 1998
  - EU waters includes dependencies!
- Person importing the craft is responsible
  - Could be the owner or distributor

List of EU & EEA Members

- Austria
- Belgium
- Denmark
- Finland
- France
- Germany
- Greece
- Iceland (EEA)
- Italy
- Ireland (Eire)
- Leichtenstein (EEA)
- Luxembourg
- Netherlands
- Norway (EEA)
- Portugal
- Spain
- Sweden (1995)
- United Kingdom

EU Dependencies

- Anguilla
- Aruba
- Azores
- Bermuda
- British Antarctic Territory
- British Indian Ocean Territory
- British Virgin Islands
- Canary Islands
- Cayman Islands
- Falkland Islands
- French overseas Departments
- French Polynesia
- French Southern and Antarctic Territories
- Greenland
- Madeira
- Montserrat
- Mayotte
- Netherlands Antilles:
    - Bonaire
    - Curaçao
    - Saba
    - Sint Eustatius
    - Sint Maarten
- New Caledonia and Dependencies
- Pitcairn
- Saint Helena and Dependencies
- Saint Pierre and Miquelon
- South Georgia & South Sandwich Islands
- Turks and Caicos Islands
- Wallis and Futuna Islands

Boats Visiting from outside EU

- Compliance is required:
  - on first point of sale in EEA
  - on first putting on the market in EEA
- Contrary to GATT
- Now accepted that craft “in transit” through EEA waters do not need to comply
  - No definition “in transit”
  - Court will rule!

Proving Exemption

- Craft must either be compliant or exempt
  - there is no “third way”
- Procedure for compliance is well documented
- The RCD includes no protocol for proving exemption
  - Owners can be questioned about a lack of CE marking at every EU port of call

Summary of Scope

- The RCD can be applicable to:
  - Craft built before June 1998 as well as after
  - New-builds & existing craft
  - Home & professionally built craft
  - Recreational craft & boats belonging to racing classes
- This means that any craft MIGHT have to comply!
  - One can’t decide if a boat falls within RCD scope by looking at it
  - The history of each case must be considered

RCD Reflections

- RCD perceived as a straight-jacket
- In fact the *New & Global Approach* allows for significant flexibility
- Only the HIN standard is mandatory
- Alternative solutions need justification
- Notified Bodies do not like “justification”
- Few take-up the flexibility on offer

Session 5

Summary of Day 1

- Scope
- Exclusions
- Design Categories
- Essential Safety Requirements
- Conformity Assessment Modules
- Documentation
- Notified Bodies

Scope

- All craft for recreational usage:
  - with hull length 2.5m to 24m

Exclusions

- Long list of exclusions (refer to Directive)
- Most exclusions fall into two categories:
  - Craft *only* for specific non-recreational use:
    - racing
    - commercial use
  - Odd craft:
    - Experimental
    - Historical replicas
    - Hydrofoils, ACV (hovercraft) etc.

RCD Design Categories

- Defined by wave height & wind speed

Ref. & Description	Wave Height	Beaufort
• A – Ocean: Must also be “largely self-sufficient”	> 4m	> 8
• B – Offshore:	≤ 4m	≤ 8
• C – Inshore:	≤ 2m	≤ 6
• D – Sheltered:	≤ 0.5m	≤ 4

Essential Safety Requirements

- 30 in 5 sections:
  - Design:
    - Boat Design Categories
    - Integrity and Structural Requirements
    - Handling Characteristics
  - Production:
    - General Requirements
    - Installation Requirements

ESR Observations

- Do not cover operation or usage
  - No requirement to carry safety equipment
    - Only need a suitable location for liferaft & fire extinguishers
  - No restrictions for usage:
    - to navigate within design category conditions
    - to remain within a given distance of shore
- Not all ESRs are safety related
  - e.g. Hull Identification Number (HIN)
    - to provide identification after theft

Conformity Assessment Modules

- Choice of Conformity Assessment Modules

Category	**A**	**B**	**C**	**D**
L_H<12m	Aa		A if "harmonised" stability standards are applied, Aa if not	A
$L_H \geq$12m	B+C or B+D or B+F or G or H			

Modules - Full Range

Module	Design	Production	Stability Testing
A	Manufacturer's internal control		
Aa	Manufacturer's internal control		NB test prototype
B +	NB review TCF	-	NB test prototype
+ C	-	Manufacturer's internal control	
+ D		NB audit Quality Systems	
+ F		NB to inspect samples of production	
G	NB review TCF	NB inspect & test every unit	
H	NB audit Quality Systems		

Documentation

- Technical Construction File
- Owners Manual
- Declaration of Conformity
- A Builder’s Plate with CE marking
- Notified Body Certificate
  - for some craft

Notified Bodies

- Conformity Assessment Bodies (CAB)
- Appointed for specific Directive(s)
- Appointed for specific Modules
- Issue certificates for compliant products
- Appointed by host Government
- May trade world-wide
- Controlled by national accreditation service

Anomalies of RCD Scope

- Home-Built Boats
- Boats built from “kits”
- Conversions (e.g. ex racing craft)
- Boats imported from outside EU
- Boats visiting from outside EU
- How to prove a craft is excluded from RCD?

Session 6

Complexities of RCD Application

- Most standards were not complete at RCD implementation, leading to:
  - Different solutions & interpretations
  - Some craft in too high a category
- Standards now mostly complete
  - Better definition and regulation of assigning categories

Design Category & Usage Regulations

- At the time of RCD implementation, Italy implemented usage regulations related to RCD Design categories
  - Allowable distance from shore linked to category
- Regulation rescinded upon demands from EU Commission
- Public understanding confused

Design Categories

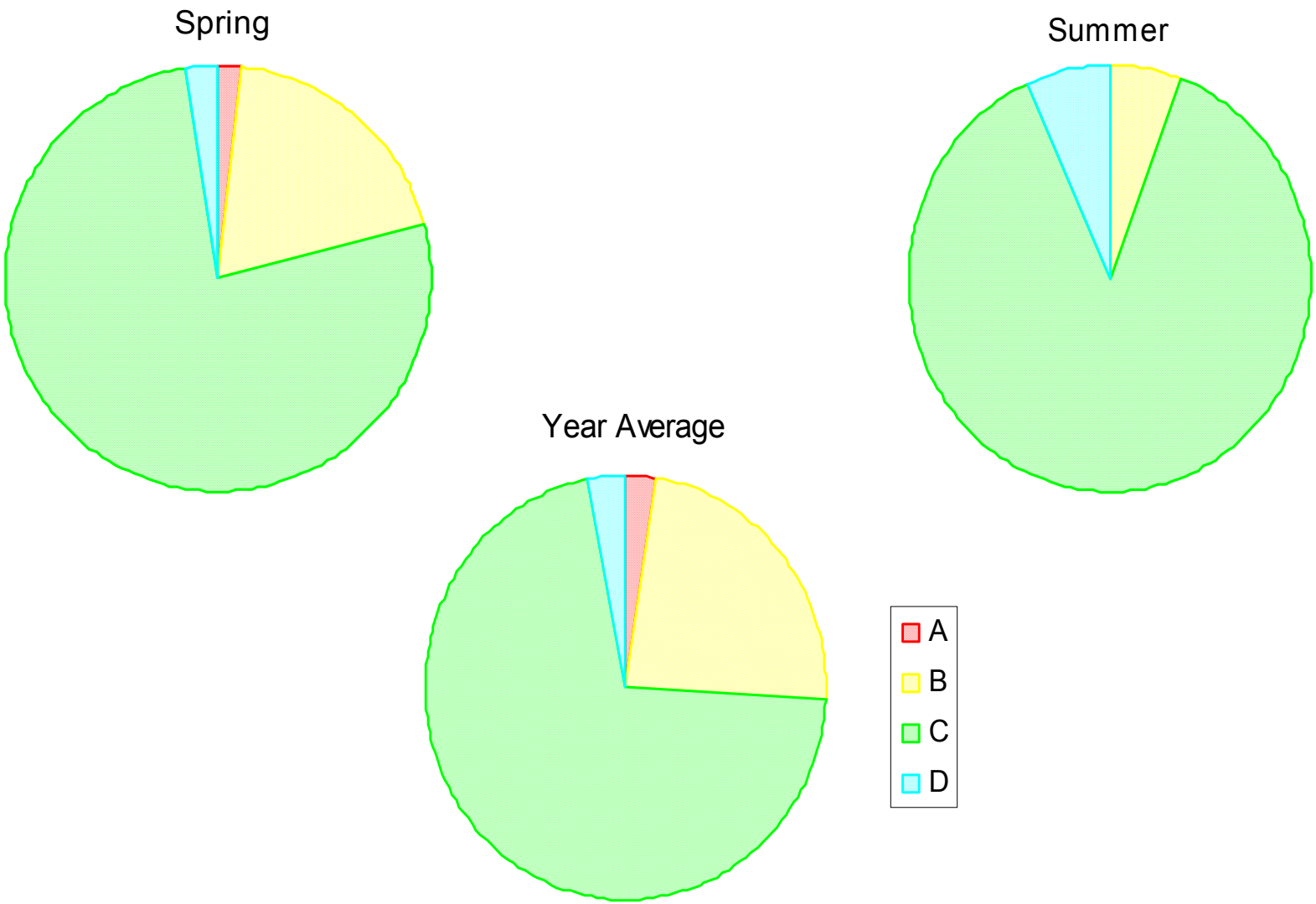
- Some craft compliant with new standards in lower category than craft CE marked before standard was complete
- Purchasers have questioned the disparity, leading to:
  - Design Category becoming a marketing issue
  - Pressure to push craft to higher categories

Marketing Advantage v Liability

Builder/Vendor's Perspective:

- Over-stating a boat's capability increases the potential liability:
  - Craft failing in operation
  - Discovery of non-compliance by authority
  - Claims on warranty issues
  - Refund for disenchanted customers
    - Some innocent - some not!

Channel Weather Conditions



Design Category Complications

Purchaser/Owner's Perspective:

- Insurance:
  - Will insurers pay-out on a claim if a boat is used in conditions outside its RCD category?
- Usage:
  - Can I use the boat in wave & wind conditions outside the design category?
  - Do I have to stay a certain distance from shore?

Design Category - Concerns

- Intended as a goal for measuring a design
- Has become a marketing issue
- Salesmen not *RCD literate*
  - Will say what is needed to make the sale
- Public ill-informed and distrusting
- Manufacturers accusing others of cheating
- Design is a major cause for RCD concerns
  - from users and manufacturers

Design Category
The Big Question

- Which physical characteristics define a craft’s correct category?

Systems & Design Categories

- Systems have no impact on category
  - A system has to be safe regardless of size or usage conditions
  - For example:
    - all fuel hoses must be fire resistant
    - electrical loads dictated by equipment not wave height!
    - gas system components tend to be the same size, material and arrangement on all craft

Design Category Features

- Allowable design category depends only upon:
  - ESR 2.3 - Protection against falling overboard
  - ESR 3.1 - Structural Strength
  - ESR 3.2 & 3.3 - Stability, freeboard & buoyancy
  - ESR 3.4 - Openings
  - ESR 3.5 - Flooding
    - bilge pumps & cockpit arrangement

Falling Overboard & Design Cat.

Option	Sailing boats						
	1	2	3	4	5	6	7
Device Design category	**A**	**B**	**B***	**C**	**C**	**C**	**D**
Non-slip surface	✓	✓	✓	✓	✓	✓	✓
Foot Stop	✓	✓	✓	✓	✓		
Handhold						✓	✓
Low-guard rail/line			✓		✓		
Guard rail/line	✓	✓		✓			
Hooking Points	✓	✓	✓				
Jack-line attachment points	✓	✓	✓	✓	✓		
Means of re-boarding	✓	✓	✓	✓	✓	✓	✓

Option	Motor boats					
	1	2	3	4	5	6
Device Design category	**A**	**B**	**B**	**B**	**C**	**D**
Non-slip surface	✓	✓	✓	✓	✓	✓
Foot Stop	✓	✓	✓			
Handhold				✓	✓	
Low-guard rail/line			✓			
Guard rail/line	✓	✓				
Hooking Points	✓			✓		
High Speed passenger support	✓	✓	✓	✓	✓	✓
Means of re-boarding	✓	✓	✓	✓	✓	✓

Structures & Design Category

- Design categories define limiting waveheights
- Most rules are based upon *design pressures*
  - ie pressure exerted on the structure during operation
  - *Pressure = Force /Area*
- Pressures are derived from *accelerations*
  - because *Force = mass x acceleration*
  - accelerations result from progress through a *sea state*
- Structural loading is proportional to:
  - boat's hull form
  - waveheight (& therefore design category!)

Stability - ISO 12217 - 1

Option	1	2	3	4	5	6
Categories possible	A and B	C and D	B	C and D	C and D	C and D
Decking or covering	Fully decked [a]	Fully decked [a]	Any amount	Any amount	Partially decked [b]	Any amount
Downflooding openings	6.1.1	6.1.1	6.1.1	6.1.1	6.1.1	6.1.1
Downflooding-height test	6.1.2	6.1.2	6.1.2	6.1.2 [c]	6.1.2	6.1.2
Downflooding angle	6.1.3	6.1.3	6.1.3	6.1.3 [c]		
Offset-load test	6.2	6.2	6.2	6.2	6.2	6.2
Resistance to waves + wind	6.3		6.3			
Heel due to wind action		6.4 [d]		6.4 [d]	6.4 [d]	6.4 [d]
Flotation requirements			6.5	6.5		
Flotation material			Annex F	Annex F		

[a] This term is defined in 3.1.6

[b] This term is defined in 3.1.7

[c] This test is not required for boats assessed using option 4 if, during the swamped load test in normative annex E, the boat has been shown to support an equivalent dry mass of 133 % of the maximum total load.

[d] The application of 6.4 is only required for boats where $A_{LV} \geqslant L_H B_H$.

Stability & Design Categories

- Category A & B
  - Notified Body certification required for all craft
  - In addition to good stability & large freeboard:
    - A righting curve is required
    - Must be fully decked
      - except Category B power craft with buoyancy
    - Cockpits (if fitted) must be quick-draining:
      - ISO 11812 defines “quick-draining”

Stability - ISO 12217 - 1

Option	1	2	3	4	5	6
Categories possible	A and B	C and D	B	C and D	C and D	C and D
Decking or covering	Fully decked [a]	Fully decked [a]	Any amount	Any amount	Partially decked [b]	Any amount
Downflooding openings	6.1.1	6.1.1	6.1.1	6.1.1	6.1.1	6.1.1
Downflooding-height test	6.1.2	6.1.2	6.1.2	6.1.2 [c]	6.1.2	6.1.2
Downflooding angle	6.1.3	6.1.3	6.1.3	6.1.3 [c]		
Offset-load test	6.2	6.2	6.2	6.2	6.2	6.2
Resistance to waves + wind	6.3		6.3			
Heel due to wind action		6.4 [d]		6.4 [d]	6.4 [d]	6.4 [d]
Flotation requirements			6.5	6.5		
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[d] The application of 6.4 is only required for boats where $A_{LV} \geqslant L_H B_H$.

Stability & Design Categories

- Category C
  - Notified Body required for:
    - All craft > 12m
    - Craft <12m that do not apply ISO12217
  - Trade-off permitted between:
    - *Stiffness*/stability
    - Freeboard
    - Amount of decking
    - Quick-draining cockpits
    - Buoyancy
    - Ability to recover from capsize (sailing craft)

Stability - ISO 12217 - 1

Option	1	2	3	4	5	6
Categories possible	A and B	C and D	B	C and D	C and D	C and D
Decking or covering	Fully decked [a]	Fully decked [a]	Any amount	Any amount	Partially decked [b]	Any amount
Downflooding openings	6.1.1	6.1.1	6.1.1	6.1.1	6.1.1	6.1.1
Downflooding-height test	6.1.2	6.1.2	6.1.2	6.1.2 [c]	6.1.2	6.1.2
Downflooding angle	6.1.3	6.1.3	6.1.3	6.1.3 [c]		
Offset-load test	6.2	6.2	6.2	6.2	6.2	6.2
Resistance to waves + wind	6.3		6.3			
Heel due to wind action		6.4 [d]		6.4 [d]	6.4 [d]	6.4 [d]
Flotation requirements			6.5	6.5		
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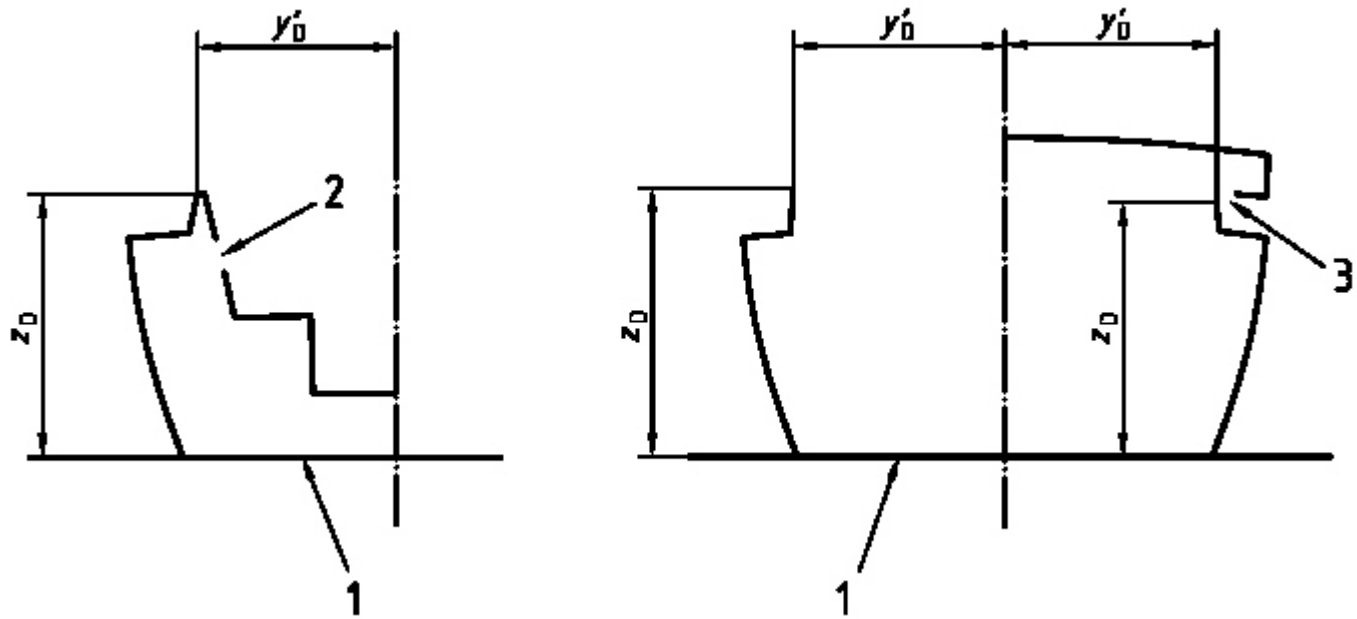
[d] The application of 6.4 is only required for boats where $A_{LV} \geqslant L_H B_H$.

Stability & Design Categories

- Design Category D
  - Notified Body never required
  - As with category C, trade-off permitted between the following features:
    - *Stiffness*/stability
    - Freeboard
    - Amount of decking
    - Quick-draining cockpits
    - Buoyancy
    - Ability to recover from capsize (sailing craft)

Freeboard = Downflooding Height



Downflooding Openings - 1

- Any opening except:
- a) small or quick-draining watertight recesses
  - small = combined volume less than $L_H B_H F_M/40$
  - quick-draining means compliant with ISO 11812
- b) piped drains from quick-draining recesses or from watertight recesses which, if filled, would not lead to downflooding or capsize when the boat is upright;
- c) non-opening appliances;

Downflooding Openings -2

- d) topside openings degree tightness 2 and:
  - referenced in OM, and
  - clearly marked “WATERTIGHT CLOSURE — KEEP SHUT WHEN UNDER WAY”; and which are
    - emergency escape hatches or appliances fitted with screwed closures, or
    - in a compartment of restricted volume, or
    - in a boat of design category C or D and which, when at loaded displacement mass, would not sink if the affected compartment was flooded as a result of the appliance being left open;

Downflooding Openings -3

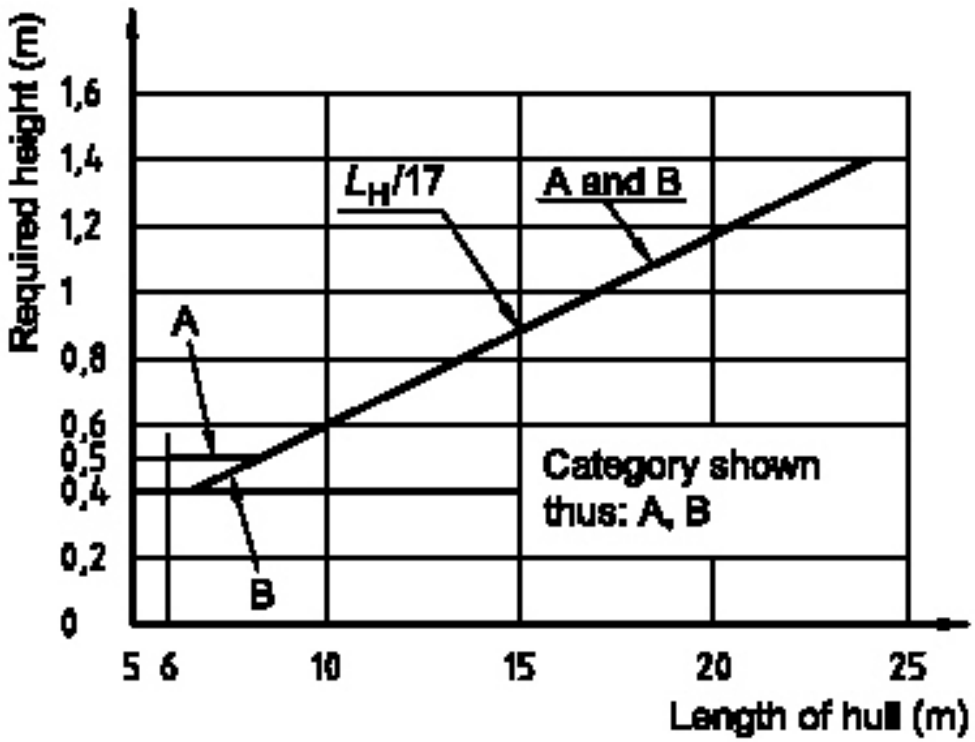
- e) opening appliances tightness degree 2 located inboard of the topsides and:
  - referenced in the OM, and
  - clearly marked “WATERTIGHT CLOSURE — KEEP SHUT WHEN UNDER WAY”;
- f) engine exhausts or other openings that are only connected to watertight systems;

Downflooding Openings - 4

- g) openings in outboard engine wells which are of
  - tightness degree 2 more than 0,1 m above waterline, or
  - tightness degree 3 more than 0,2 m above the waterline and also above the top of the transom in way of the engine mounting, provided that well drain holes are fitted, or
  - tightness degree 4 more than 0,2 m above waterline and
    - also above the top of the transom in way of the engine mounting, provided that well drain holes are fitted, and
    - that the part of the interior or non-quick-draining spaces into which water may be admitted has a length less than $L_H/6$
    - and from which water up to 0,2 m above the loaded waterline cannot drain into other parts of the interior or non-quick-draining spaces of the boat.

Downflooding Height

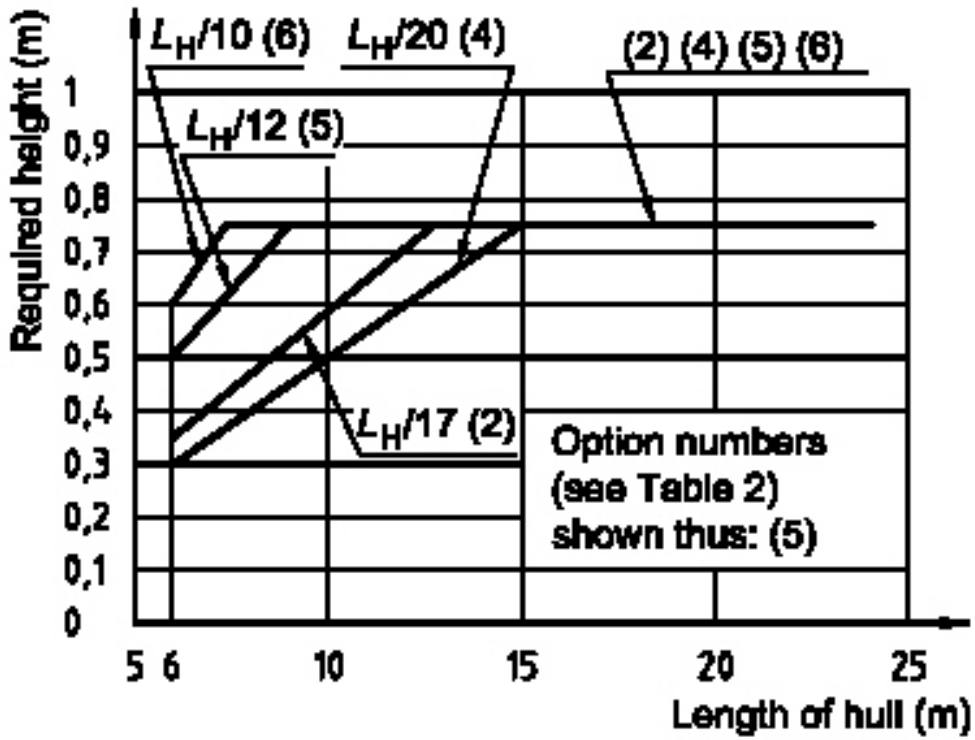
Non-Sailing Craft: Category A & B



a) Design categories A and B

Downflooding Height

Category C



b) Design category C

Downflooding Height

Category D

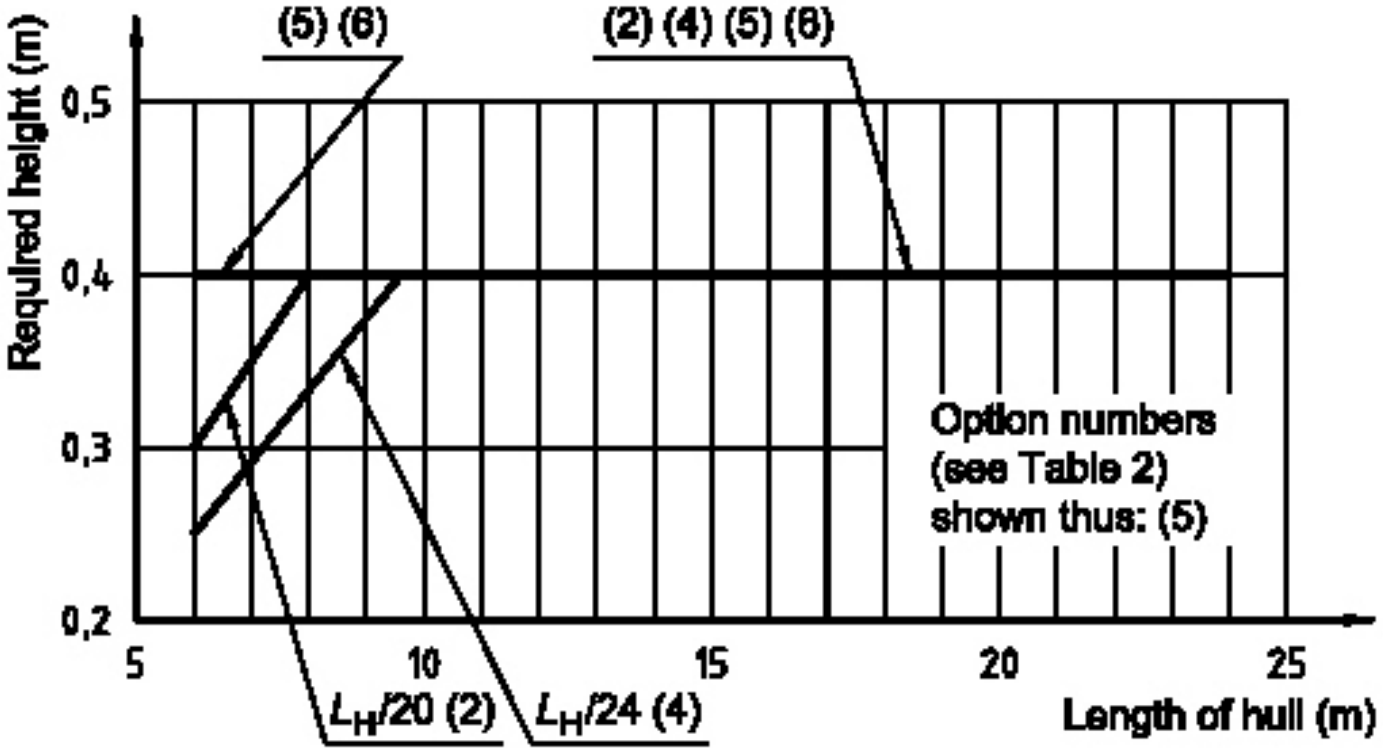


Figure 3 — Required downflooding height — Design category D

Openings & Design Categories

ISO 12216

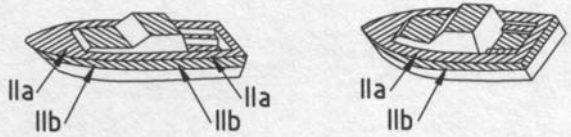
- Strength of appliance depends upon category
  - Glazing material & thickness
  - Frame strength
- Openings supplied with documentation:
  - Degree of tightness, (1 to 4)
  - Permitted location (Areas I to IV)
  - Suitable Design Category of craft

Motor craft

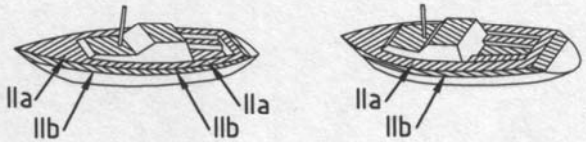
Sailing monohull

Sailing multihull

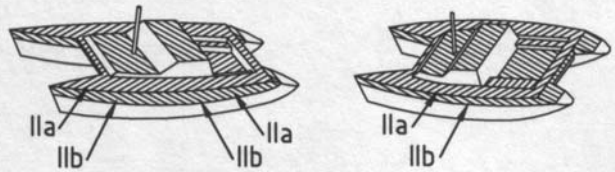
a) Area I



Motor craft



Sailing monohull



Sailing multihull

b) Area II a and II b

Motor craft

Sailing monohull

Sailing multihull

c) Area III

Motor craft

Sailing monohull

Sailing multihull

d) Area IV

Flooding & Design Category

ISO 15083

- Bilge Pump requirements
  - Open Boats
    - 1 manual pump required if craft not fitted with buoyancy
  - Enclosed Boats
    - Category D: 1 manual pump
    - Categories A-C: 2 pumps
      - one manual if head from exposed steering position is < 1.5m
  - Pump capacity varies with boat length (i.e. volume), not category

Cockpits & Design Categories

ISO 11821

- At least 2 large drains
- Diameter of drains depends upon:
  - ratio of volumes of cockpit to boat
- Minimum sill heights to all openings
- Minimum height of sole above loaded waterline

Session 7

Specific implementation problems

Use of Standards

- Only HIN harmonised standard is mandatory, but
- Notified Bodies have agreed to use ISO 12217 for all stability assessments
- Thus assignment of design category is inextricably linked to ISO 12217

Stability Standard - ISO 12217

- The key standard for RCD
  - the most sensitive standard for design category
  - dictates use, or not, of Notified Body
    - for category C craft>12m
- Standard was not harmonised until 2002
- During the drafting process, the standard underwent significant changes

Updating Standards

- Be aware of the “status” of standards
  - CD, DIS, FDIS, prEN, EN ISO
- Manufacturers are expected to migrate to the latest edition of a standard as soon as is practicable
- But change in stability standard requires re-certification (and associated cost)
- Thus many manufacturers do not update…..

Common Non-Conformities

- Hull Identification Number (HIN)
  - wrong format
  - wrong position
  - no second hidden location
  - much debate as to what is “permanent”

Common Non-Conformities

- Protection from falling overboard
  - Toe rails missing on sailing craft
  - Heights of guard rails/wires
  - Big gaps in grip on decks
    - particularly on big hatches
  - Big gaps between handholds
  - Insufficient supports or seats for high speed craft

Common Non-Conformities

- Builder's Plate
  - Directive demands the "Manufacturer's Maximum Recommended Load" to be stated on plate
  - Directive includes weight of fluids in the definition of the Maximum Recommended Load
  - Directive is wrong!
    - contradicts the standard and can be dangerous

Common Non-Conformities

- Openings strength
  - Bought-in components should be CE marked
  - Fabricated appliances to be proven by builder
    - Calculation and/or tests required
- Remember the companionway!
- Type of Openings
  - Seacocks on all fittings below 200m **above** loaded waterline
  - Valves to comply with ISO9093

Common Non-Conformities

- Cockpit
  - Area of drains - very difficult calculation!
  - Sill height
- Escapes
  - Vertical step height to exit (max 1.2m)
  - Craft <15m - distance to exit
  - Craft >15m - length of “shared” exit routes

Common Non-Conformities

- Systems:
  - Fuel
    - Tank pressure test & labelling
    - Hose approvals
    - Labelling of filler cap
    - Distance of fuel fill & vents from accommodation openings
  - Electrics
    - Voltage drops
  - Gas
    - Retention of gas bottles in dedicated locker

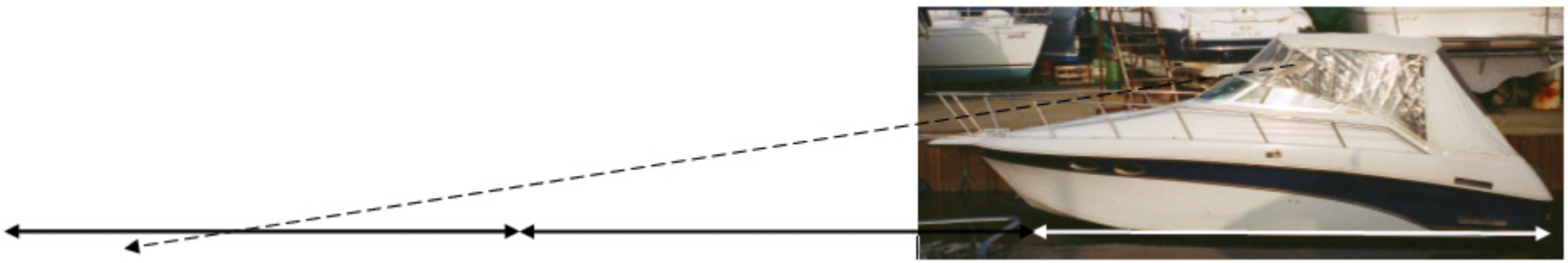
Common Non-Conformities

- Annex II components
  - Steering gear including the wheel & hub
  - Fuel tanks & hoses
  - Windows, Portlights & Hatches
  - Start-in-gear protection (outboard motors)
  - Ignition Protected Devices
    - for use in spaces containing gas or petrol vapour
- Require CE marks if bought-in
- Must undergo testing if manufactured

Potential Show-Stoppers

- Structure
  - Very difficult to put right after completion
- Escapes
  - Distances a particular issue for larger craft
- Electrical Wiring
- Stability
  - Craft rarely fail but may achieve lower category
  - Category D craft most vulnerable!
- Vision from the helm

Vision from the Helm



- Vision to waterline required within 5Lwl (or 50m) for non-sailing craft with wheel steering
- Easy for this type of craft - but not for all!

Surprising Lack of Requirements

- No requirements for operation
  - i.e. no requirement of anything to be in working order at the time of CE marking!
- Gas ventilation
  - Early drafts of standard required “fixed ventilation” for spaces with gas burning devices
  - Recent drafts only require “ventilation”
    - Current understanding is that hatches and portlights provide ventilation adequate for this purpose

Documentary Problems

- Technical Documentation inadequate because:
  - Non-specific (ie written like a standard)
    - "*x is greater than 20mm diameter*." - How big is it?
  - Degree of customisation has rendered existing documentation inapplicable
  - Use of out-dated drafts of standards

Documentary Problems - 2

Part-built boats

- *Annex IIIa Declaration* required at hand-over
- Very common for this Declaration to be missing
  - requires final builder to claim conformity (and take liability) for work of previous builder

Documentary Problems - 3

Owners Manual

- Too generic - covering too large a range of craft with one manual
- Only includes information for using the boat
  - missing safety and maintenance information

Documentary Problems - 4

Declaration of Conformity

- Missing references to standards
- Not signed/identifying person making the Declaration
- Description inadequate
  - not possible to marry Document with the boat

Documentation - What is required?

- Technical Construction File (TCF)
  - Design & production details of the boat
  - Evidence of conformity to standards for each ESR
    - Test results
    - Calculations
  - Details of how alternative solutions show equivalent safety
- TCF must be produced for every model
  - unless a formal, certified quality system for design is in operation
    - very rare!
  - The TCF must be held for 10 years

TCF - Format & Contents

- No standard prescribes the TCF contents
  - Directive has only loose detail of contents and format
- Author has freedom
- Recommended that the TCF follows the order of ESRs:
  - best way to avoid missing sections
  - shows understanding of Directive to authorities
  - quicker for authorities to audit

TCF - Most Common Pitfall

- Don’t write a standard!
  - e.g. “all *openings are above the required minimum downflooding height*”.
    - What and where is the lowest opening?
    - What is the required downflooding height?
  - These questions take time to answer
  - Answers are different on every model
  - Answers may be different on customised version of the same model

TCF - Structures

- Very common to find neither details nor calculations
- Statements such as "*Complies with XXX Rules*" are inadequate
  - this is not a harmonised standard
  - no presumption of conformity
  - many will not have heard of the code
- Evidence and proof are required

TCF & Ranges of Craft

- TCF for standard craft
- Customisation detail for individual craft should be kept in an “appendix”
- HIN should be recorded so that each craft can be related to the correct appendix
- If content of appendix is large, a new TCF is recommended

Session 8

Market Surveillance

Getting the message across:

- Prior to RCD few nations had regulations for safety of recreational craft
- Boat building industry is not used to regulation
  - A very old industry with old traditions that do not include *conformity assessment*
  - It will not occur to builder to seek out applicable legislation
  - Authorities will need to be proactive in explaining requirements to the industry

Nature of Boat Builders

- Most boat builders are small business
  - Little money
  - Few resources
  - Staffed by boating enthusiasts and craftsmen
  - Typically build craft “like the last one”
    - Many boats have evolved to current specification
    - Few go through an engineering design process from conception
    - Design drawings and specifications often do not exist
  - Not staffed with academics
    - Do not have the ability to conduct structural calculations let alone read and interpret EU legislation

Culture Change

- Contrast RCD with existing boating legislation:
- Existing regulations:
  - to "*surveyor's satisfaction*"
  - surveyor makes pass/fail decision
  - there is no auditable document justifying compliance
  - owner/manufacturer has no role in process
- RCD very different
  - Signatory of Declaration makes pass/fail decision
  - Signatory is usually the builder - not an independent surveyor

Understand the Motivation

- Builder signing Declaration motivates a builder in two opposing ways:
  - Imposes liability for Declaration upon the signatory
  - Enables a manufacturer to sign-off a project when convenient & cheat the system
    - if no Notified Body involved

Current RCD Surveillance

- Different types of body responsible for policing RCD across the nations:
  - **UK -** *Trading Standards* **-** Government consumer protection body
  - **France -** Government's marine department
  - **Spain -** Customs
- Some are "dockside", others are not
- Some "proactive" others "reactive"

How & when to conduct Surveillance?

- At *import*
- At *point of sale*
- When *putting into service*

Point of Import (customs)

- Customs procedure to include simple check for *regular* RCD paperwork:
  - CE marking plate
  - Declaration of Conformity
  - Owners Manual
- If not all present and correct:
  - impound boat until importer produces documents
  - if documents questionable, demand Technical Documentation

Point of Sale

- Not possible to inspect every craft being sold
- Different culture for new boats compared to second-hand boats
  - New boats sold by manufacturer or official distributor
  - Second-hand boats sold by brokers or privately
- Widest coverage achieved by visiting businesses:
  - manufacturers, distributors and brokers

Manufacturers of New Craft

- Manufacturers want a good reputation
  - They should be RCD literate
  - They should hold the Technical Documentation
  - Generally willing to comply
  - Usually co-operative to surveillance
  - innocent mistakes are possible!

Distributors of New Craft

- Distributors need to maintain a reputation for their boats but are sales-orientated
  - Not RCD literate
  - Not usually technically knowledgeable
  - Perceive the RCD to be manufacturer's problem
  - Surprised to find they have a duty under RCD
  - Some willing to comply, some are not

Second Hand Craft

- Brokers are driven by commission on sales:
  - No need to uphold the reputation of a builder
  - More sales means more income
  - Compliance issues only slow or cancel a sale
  - Directive perceived as the manufacturer's responsibility
  - No incentive to investigate RCD compliance
    - Except for staying out of jail!

Brokers

- As industry professionals Brokers do have a duty of care
- They are responsible if they do not make a reasonable attempt to consider compliance
- RCD Surveillance of Brokers is a fast way to educate the industry of the RCD
  - They work in the gap between users and builders
  - They are salesmen who talk a lot!

Private Sale

- Private sale very difficult to control
- Target key advertising media
  - Educate the Editors
  - In UK magazine columns listing private adverts include a reference for vendors and purchasers to consider the issue of RCD compliance
  - Spot check by approaching vendors advertising in media & tell journalists about it

Key Principle

- The boat buyers can be used to drive the industry towards compliance
  - If the buyers demand compliance, boats will comply!
- Use the media to educate the boat users as well as the boat building industry

RCD Investigations

- Common causes for RCD investigations
  - Accident leading to genuine safety fears
  - Exploitation to “get-out” of the deal
    - Growing problem
- Complex Directive
  - Difficult to comply in every detail
  - Difficult for prosecution to identify the non-conformities!

Two Aspects for Investigation

1. Physical Conformity of the boat
   - Must conform to recognisable standards
2. Conformity of Documentation
   - Must prove the boat conforms to standards
   - Must justify the choice of standards

- Safety only compromised by failure of 1.
- Compliance compromised by failure of either point

TCF - Typical Problems

- Avoid generic documents
- Many variations make document confusing
- Reluctance to amend the *central* document
  - resulting document will not accurately describe the boat
  - recent UK prosecution on this basis
    - even though the boat itself did comply!

Producing Documentation

Adequate RCD documentation for €500?

- Not possible:
  - Inspection & testing of boat
  - Authoring of Technical Documentation specific to the boat
  - Authoring of Owners Manual specific to the boat
  - Drafting of Declaration of Conformity
  - All in one day????
- Proving RCD compliance is work in itself
- Builders need to take this seriously
  - and provide necessary time and resources

Surveillance Experience -1

- Typical finding for Module A:
  - CE mark on boat
  - No documentation at all
  - Boats in category D just to avoid compliance check by Notified Body

Surveillance Experience - 2

- Typical finding for Module Aa:
  - Notified Body certificate for stability available
  - Declaration of Conformity available
  - Owners Manual available
  - No Technical Documentation existing!
  - Upon investigation:
    - Only standard applied is for stability

Common Interpretation

- All Governments meet to discuss application of RCD
- Meetings infrequent
- All attendees are administrators - not technical
- Technical interpretation left to RSG
  - Recreational craft Sectoral Group

RSG

- Notified Body Forum
- Also attended by other experts
  - e.g. CEN Consultant
- Purpose is to define common interpretations of technical issues
- Only Notified Bodies may vote
- RSG Publish annual Guidelines document

Control of Notified Bodies

- Assessment carried out by national Accreditation Service
- AS make recommendation to Government
- Government appoint or rescind Notified Body status
- Some Accreditation Services better resourced than others!

Complaints Procedure - NoBo

- Consumer with complaint about a product approaches local consumer protection body
- Consumer protection body (CPB) investigates
- If a case to answer, CPB refer problem to government
- If manufacturer is not in same country, Government refers to source country's Government
- Source country Government ask national Accreditation Service to investigate & report

Complaints

- Many links in the chain
- Time-consuming process
- Momentum of investigation depleted at each link in the chain
- Complaints against native builders most effective

Session 9

Amendment to Directive

- Reference 2003/44/EC
- Adopted: 19th May 2003
- Entered into force: 26 August 2003
- The amendment was considered necessary:
  - Due to increased environmental awareness
  - Due to need for enhanced consumer protection
  - To avoid market fragmentation & barriers to trade
  - To improve/clarify some existing provisions

Additions to Scope

- Personal Watercraft (PWC)
  - Craft sat “on” rather than “in”
- Propulsion Engines

Emissions

- Maximum levels set for:
  - Exhaust output
    - CO, HC, NO_X and particulate pollutants
  - Noise

Exhaust Emissions

Type	Carbon Monoxide CO=A + B/P (g/kWh)			Hydrocarbons HC=A + B/P (g/kWh)			Nitrogen oxides NO_x (g/kWh)	Particulates
	A	B	n	A	B	n		
Two-stroke spark ignition	150,0	600,0	1,0	30,0	100,0	0,75	10,0	Not applicable
Four-stroke spark ignition	150,0	600,0	1,0	6,0	50,0	0,75	15,0	Not applicable
Compression Ignition	5,0	0	0	1,5	2,0	0,5	9,8	1,0

- Testing at load in simulated conditions sufficient
- Responsibility passed back to engine manufacturer
- Boat builders will simply purchase certificated engines

Sound Emission

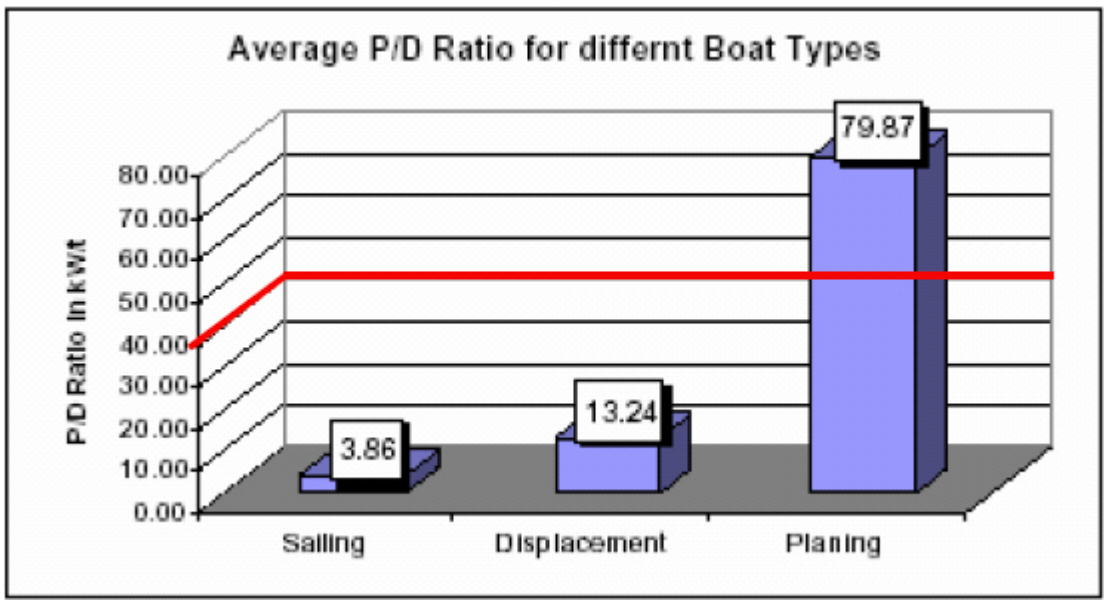
Engine Power (kW)	Maximum Sound Pressure (dB)
$P_N \leq 10$	67
$10 < P_N \leq 40$	72
$P_N > 40$	75

- Measurement defined in new standard:
  - EN ISO 14509
    - Test conditions difficult to find in much of EU
    - Test procedure difficult to set-up
    - Test runs considered too dangerous in many regions

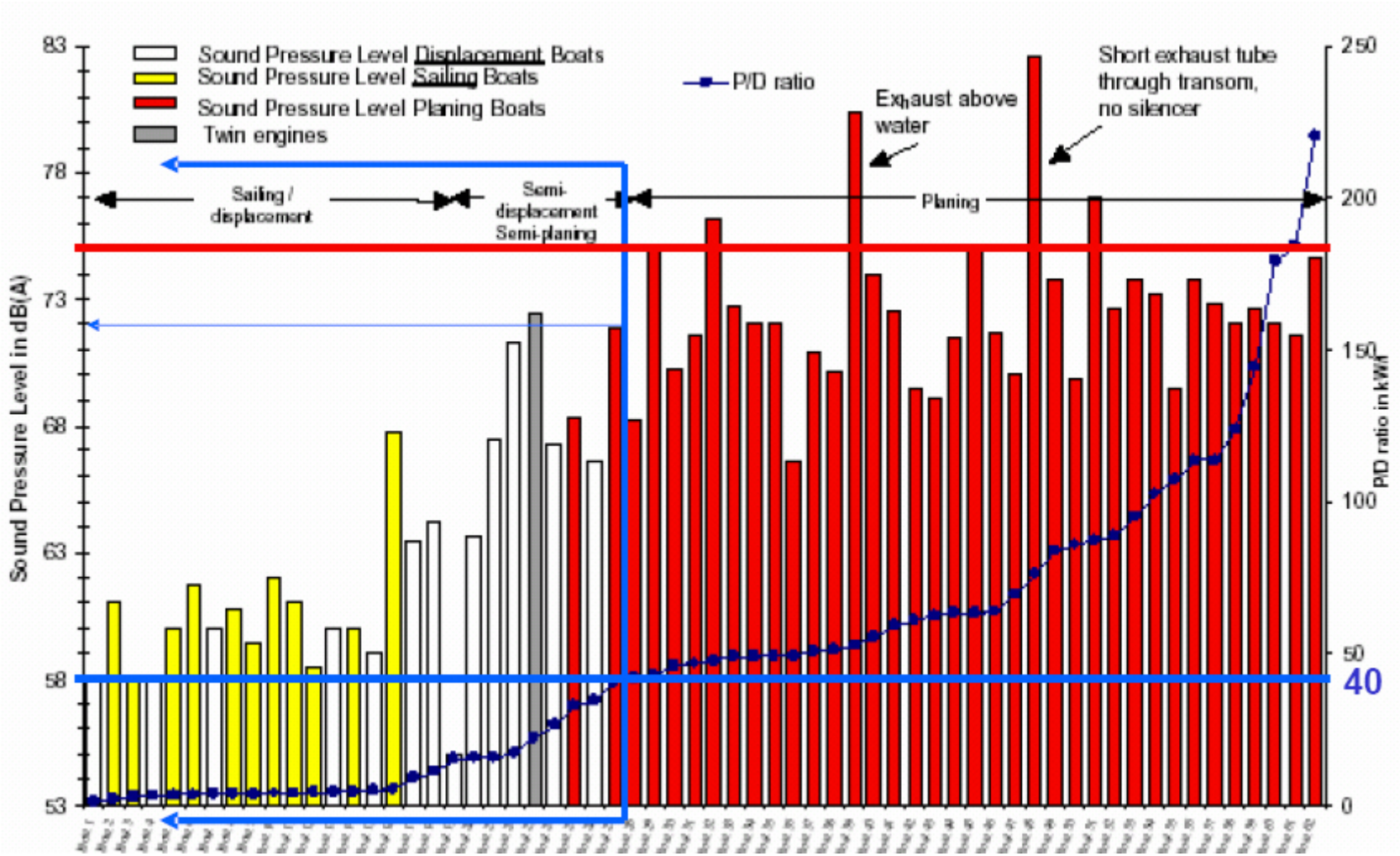
Sound Compliance

- Craft with $F_N < 1.1$ and $P/D < 40$ exempt from testing
- Reference Boat concept
  - Database of tested boats' parameters
  - Can claim compliance without testing if a close match found in database
- Soundboat project being run by BMF
  - EU funded project to research an easier but reliable method for predicting sound

Power/Displacement Ratios



Sound Testing Craft Types



New RCD Trigger Points

- Existing points:
  - 1st point of placing on the market
  - 1st point of putting into service
- New points:
  - Major engine conversion
  - Major craft conversion

Changes to ESR 1

Design category	Wind force (Beaufort scale)	Significant wave height (H1/3 m)
A - ‘Ocean’	exceeding 8*****	exceeding 4*****
B - ‘Offshore’	up to, and including, 8	up to, and including, 4
C - ‘Inshore’	up to, and including, 6	up to, and including, 2
D - ‘Sheltered waters’	up to, and including, 4	up to, and including, 0,3

*** but excluding abnormal conditions**

Change to ESR 2.1

Hull Identification Number (HIN)

- – changed to:

- Craft Identification Number (CIN)
- To stop confusion over purpose:
  - – To identify the craft
  - – Not to identify country of origin of hull
    - Sensitive marketing issue in some regions

Change to ESR 2.2

Builder's Plate

- Maximum Load on plate to exclude:
  - weight of fuel in permanent tanks
  - weight of water in permanent tanks
  - weight of fluids in permanent holding tanks
- Existing text implies that if tanks are empty, additional weight may be carried onboard

Change to ESR 5.2.2

- Fuel Tanks
- Existing Directive identifies fuel grades by flashpoint
- Amendment uses *petrol* and *diesel* for simplicity

Change to ESR 5.6.2

- Fire Fighting Equipment
- No EU harmonisation for fire extinguishers
  - National requirements apply
- Amendment allows just indication of location, type & capacity of extinguishers
  - Need not be in place on point of compliance
  - Should be in place when putting into service

Change to ESR 5.8

- Discharge Prevention
  - Craft with permanent holding tank to be fitted with deck pump-out fitting

Conformity Assessment Modules

- New module B+ “E” added
  - *Product Quality Assurance*
  - Quality system covering final inspection & testing of products
- Modular choice now possible
  - can voluntarily choose more onerous module

Post Construction Procedure

- Existing Directive:
  - Previously not defined
  - Module “G” was being applied
- New Directive:
  - Notified Body to be involved for all craft
    - even category D craft will need a Notified Body
  - Notified Body to compile a “report”

Session 10

Responsibility at EU Commission

- Enterprise Directorate-General
  - Unit E5 “Aerospace, defence, rail and maritime industries”
    Office 55, 6th floor, 88 Rue D'Arlon,
    Brussels B-1049, Belgium
- Costas Andropolos - Head of Unit
- Johan Renders - Principal Administrator

Europa Website

- Commission's Official website including a guide on the application of New & Global Approach Directives.

http://europa.eu.int/comm/enterprise/newapproach/legislation/directives1.htm

Standards

- List of standards for New Approach Directives
  - www.newapproach.org/Directives/Default.asp

- CEN Consultant for RCD:
  - Mr Paul Handley
  - paulhandley@onetel.net.uk

RSG

- **Recreational Craft Sectoral Group**
- The official RCD technical forum attended by:
  - RCD Notified Bodies
  - The European Commission
  - The Recreational Craft Industry
  - User Organisations
  - CEN.
- The RSG publish Guidelines for the Directive.
- http://www.rsg.be/

- **CEproof Ltd.**
  - Commercial operators of a Certification scheme for recreational craft excluded from the scope of RCD (as well as providing compliance services).
- www.ceproof.com