

International 2.4mR Class Association, Technical Committee

$R = (L + 2d - F + \sqrt{S}) / 2.37 = 2.4$



2.4mR TC MEETING 31 May 2023 (notes in blue)

Present

Peter Russell (AUS)
Bruce Millar (CAN)
Rikard Bjurstrom (FIN)
Keith Gordon (GBR)
Stellan Berlin (SWE)
Thomas Jatsch (GER)

Apologies

General Business

1. Buoyancy Checks

ICA notes Buoyancy Certifier applications need to demonstrate competency either by current or past measurement qualifications or endorsement by an Official Measurer. Buoyancy Certifier is a Measurer role appointed by the ICA (not NCA) where the person needs to have knowledge of the Class Rules and the ERS, respect competitors and officials and be aware of conflicts of interest.

31.05.2023 Nomination for Stephan Giesen (GER) as Buoyancy Certifier received by ICA on 24.04.2023. Thomas Jatsch endorsed Buoyancy Check competency for Stephan Giesen. Request for Stephan Giesen Buoyancy Check Certification approved by TC.

31.05.31 Bruce Millar advised Canada Buoyancy check workshop completed and will forward endorsement for 3 Buoyancy Certifiers for TC review.

2. 2.4 NOD Certification Administrator

31.05.2023 Peter Russell noted the resignation of Henrik Johnsson as ICA 2.4 NOD Certification Administrator effective 5 May 2023. We note the valuable contribution that Henrik has made to the 2.4mR class over many years as Measurer and ICA Certifier. His efforts in certifying many boats prior to the 2022 USA WC is particularly noteworthy. Henrik's quest for getting certification right will be a hard act for his successor to follow. John Seepe is acting as the 2.4 NOD Certification secretary with technical assistance by Bruce Millar until a new 2.4 NOD Certification Administrator can be appointed. Bruce Millar noted that 2.4 NOD certificates have been downloaded successfully. 8 GER boats and 1 ITA boat require 2.4 NOD certification. Peter Russell has issued the following 2.4 NOD Certification Administrator duty statement:

The ICA 2.4 NOD Certification Administrator is responsible for issuing and maintaining records of 2.4 NOD boat certificates.

- ❖ Receiving requests for 2.4 NOD certificates from owners
- REQUIRED DOCUMENTATION
- 2.4mR certificate
 - 2.4mR Measurement Form
 - 2.4mR Buoyancy Certificate
 - 2.4 NOD Hull Measurement Report
 - 2.4 NOD Mast and Boom Measurement Report is optional
- ❖ Reviewing submitted applications to ensure completeness
- NOTES
- World Sailing plaque number and 2.4 NOD sticker number must be consistent through all documents
 - Sail number must be as allocated by the MNA/NCA of the owners country
- ❖ Preparing and issuing 2.4 NOD certificates for approved applications
- ❖ Maintaining a register of 2.4 NOD certificates
- ❖ Coordinating the register of 2.4 NOD certificates with the 2.4mR ICA website

3. ICA Publicity
19.04.2023 Bruce Millar advised EC is developing a program of class discussion through the website and social media.
4. WS Regulations
31.05.2023 Keith Gordon advised WS 'Report a Safety Incident' reports for WS organised or recognised events on website. TC noted safety incident reports are the responsibility of the event Race Officer.
5. RS Venture WS Championship
31.05.2023 Keith Gordon advised WS RS Venture Championship includes experimental disabled classifications of severe pain and age >75 years.
6. 2.4mR Measurement Form
31.05.2023 Thomas Jatsch proposed deleting sail number, owner name and boat name from measurement form so alterations not required to measurement form on recertification. Owner name, boat name and sail number recorded on **certificate**. TC to review with proposed eMeasurement Form.
Existing Measurement Form
International 2.4 metre Measurement Form
Sail Number ISAF Plaque Number
Owner..... Name of yacht
Proposed Measurement Form
International 2.4 metre Measurement Form
WS Plaque Number 2.4 NOD Number (if applicable)
7. RYA Sail Numbers
31.05.2023 Keith Gordon advised that RYA will in future issue sail numbers matching plaque numbers. Peter Russell noted that 2.4mR class rule A.10 requires sail numbers to be issued in consecutive order starting at "1" unless they are personal numbers. Keith Gordon to follow-up with RYA the background to this decision.
8. Buoyancy Certificate
31.05.2023 Bruce Millar noted that the current 2.4mR class rules do not include a validity period. 2.4mR class rule 'A15.3 An ICA Buoyancy Certificate is valid for a maximum of five (5) years from the date of the certification' is missing. Peter Russell to contact WS for amendment.
31.05.2023 Keith Gordon noted the 2.4mR class rule Section L – Buoyancy Check requirement for the "boat to be filled with water until water flows out of the cockpit" cannot be achieved as water flows from other deck openings. TC agreed rule is understood as boat full of water.
9. Boat weight and Spar Certification
31.05.2023. The implication of changing spars on the 2.4 NOD certificate has been questioned recently. The 2.4 NOD class rules assume that spars may be replaced when damaged or different spars used in competition. The 2.4 NOD certificate is applicable to the boat hull, keel and rudder in accordance with the measurement report. The spar measurement report is optional only to assist owners in complying with the class rules and is not required for 2.4 NOD certification. Spars and their rigging all have different weights so when changing spars it is the owners responsibility to ensure that the boat weight is maintained (with ballast corrector weights) in accordance with its certificate. Peter Russell to prepare TC Advice note.

Next Meeting

Canada	12.00pm Thursday 22 June 2023
UK	8.00pm Thursday 22 June 2023
Sweden	9.00pm Thursday 22 June 2023
Germany	9.00pm Thursday 22 June 2023
Finland	10.00pm Thursday 22 June 2023
Australia	5.00am Friday 23 June 2023

Following meeting 20 July 2023 prior to 2023 Finland WC

2023 2.4mR TC Work Program

A EC Meetings

Bruce Millar to act as TC representative for EC meetings. TC meeting minutes to be issued to EC and website for information. EC/TC to review Mid-year Measurement Forum 2023.

B ICA Constitution

TC to review proposed ICA Constitution including TC responsibilities for official measurers, buoyancy check persons, 2.4 NOD builders and EC coordination.

22.03.2023 Proposed ICA Constitution reviewed, Peter Russell to prepare update for EC review.

- ❖ TC to be maximum five (5) members.
- ❖ TC to report to EC, no time limit.
- ❖ TC to liaise with World Sailing on technical matters.
- ❖ TC to provide guidance only for World and Continental Championship Equipment Inspection.
- ❖ TC to maintain Official Measurer database, publication by MNAs.
- ❖ TC to appoint Buoyancy Certifiers and maintain database, publication by NCAs.
- ❖ TC to review 2.4 NOD Accredited Builder applications and quality control.
- ❖ TC and Chairperson to be elected for period of two (2) years, no time limit.
- ❖ Part 20 Amendments to be consistent with AGM process.

Note TC to review Class Chief Measurer role. *Chief Measurer appointment? TC is responsible for guidance on equipment inspection procedures at 2.4mR class regattas. TC Chairman leads TC duties. Class IM is responsible for prototype production boat measurement to WS Regulation 10. Official Measurers certify 2.4mR boats. ICA certifies 2.4 NOD boats.*

19.04.2023 Proposed TC update to ICA Constitution reviewed:

- ❖ Keith Gordon noted number of NCAs including GNR, FRA etc do not have copies of 2.4mR Certificates – certificates kept by MNA only. 2.4mR Class to be amended to mean «body of NCA members». Vice President duties to be amended to delete Certificate records, NCA member records are specified under Treasurer. Certificates to be controlled in accordance with 2.4mR Class Rules.
- ❖ Election terms to be reviewed by EC.
- ❖ 2.4mR TC duties confirmed as follows:

g. TECHNICAL COMMITTEE

- I. Shall consist of a Chairperson and a maximum of four (4) Members of which three (3) members shall form a quorum.
- II. The Technical Committee reports to the EC.
- III. The Technical Committee shall be responsible for:
 1. Considering all technical matters concerning Class Rules,
 2. Putting forward proposals for amendments to Class Rules, Building Specifications and Measurement Forms,
 3. Prepare and make ICA submissions to WS on technical matters concerning Class Rules,
 4. Monitor any changes in WS measurement regulations or rules which may affect the ICA,
 5. Maintain 2.4mR and 2.4 NOD measurement forms and manuals defining preferred measurement methods,
 6. Manage 2.4 NOD measurement templates.
 7. Guidance on equipment inspection at World and Continental Championships,
 8. Maintain a current registry of the names and addresses of Official Measurers and Buoyancy Certifiers, and
 9. Review 2.4 NOD Accredited Builder Applications and Quality Control documentation in accordance with the 2.4 NOD Accredited Builder Agreement and 2.4 NOD Class Rules.

31.05.2023 Bruce Millar advised Constitution review ongoing, TC amendments noted.

C 2.4mR and 2.4 NOD classes

TC to review 2.4mR and 2.4 NOD class descriptions for website.

14.12.2022 Peter Russell working to improve 2.4mR and 2.4 NOD description. Copy to be forwarded to Loic Eonnet (FRA) to develop description. Draft wording attached for review:

The International 2.4mR Class Association is the world organization that governs the International 2.4mR Class (2.4mR) and the 2.4 Norlin One Design Class (2.4 NOD).

All 2.4mR boats comply with the 2.4mR Rating Rule.

The 2.4mR World Championship includes all 2.4mR boats with the first boat awarded the World Cup Trophy and the first 2.4 NOD boat awarded the 2.4 NOD Trophy.

INTERNATIONAL 2.4mR CLASS

*The International 2.4mR Class is a development class with boats complying with the 2.4mR **Open Class Rules**. 2.4mR boats are administered by Member National Authorities under delegation by World Sailing.*

The 2.4mR class rule provides a development option for sailors looking at innovation within the meter rule which has produced beautiful boats for over a century.

Current production 2.4mR boats include the Super 3 and Stradivari. Home built 2.4mR boats can also be built under this rule.

2.4 NORLIN ONE DESIGN CLASS

*The 2.4 Norlin One Design (NOD) is a restricted class with boats complying with the 2.4 NOD **Closed Class Rules**. 2.4 NOD boats are a class of 2.4mR boat, based on the Norlin Mk III design and administered by the 2.4mR ICA.*

The 2.4 NOD class rule provides a one-design option for sailors with racing in boats of equal performance where results are determined by the skill of the sailor. The 2.4 NOD has been selected by World Sailing as the single person technical equipment for Para Sailing.

2.4 NOD boats are manufacturer controlled with the ICA looking at accreditation of new builders. 2.4 NOD builders know that they are building a standard product that will not be outdated and is subject to quality control.

18.01.2023 No advice received on proposed description. Peter Russell to forward to EC for review and website update.

D 2.4mR Class Rules

TC to obtain WS approval of seat and headsail boom amendments. TC to review headsail and mainsail foot median class rule requirement.

19.04.2023 Peter Russell to prepare draft submission to WS for amendment to 2.4mR Class Rules on seat and headsail boom weights.

31.05.2023 Peter Russell to prepare draft submission to WS for amendment to 2.4mR Class Rules on buoyancy check validity period.

E 2.4 NOD Class Rules

TC to publish 2.4 NOD Class Rules and Construction Manual as approved 2022 eAGM.

14.12.2022 2.4 NOD Class Rules 2022 and 2.4 NOD Construction Manual 2022 to be issued to ICA for website.

F 2.4 NOD Boat Scan

TC to manage NOD digital file production by VmaxYachting as approved by EC 2 December 2022.

14.12.2022 Bruce Millar working with Heiko Kroger and Thomas Jatsch to complete 2.4 NOD boat scan, scan media including backup to be finalise.

18.01.2023 Bruce Millar advised scan expected mid February for issue to 2.4 NOD Accredited Builders.

22.02.2023 Bruce Millar advised scan delayed – completion now due March 2023.

22.03.2023 Heiko Kroger advised 2.4 NOD boat scan completed by Vmax Yachting, Max Gurgel. Two deck scans required to resolve data file. Scan precision is excellent at 0.5mm. Scan ready end March for distribution. Scan will be available in low and high resolution to assist distribution. Distribution control agreement to be resolved. File security to be resolved with dropbox and 2 x hard drive backups.

2point4 Laser Scan Screen Recording 2023_03_22 issued by Heiko Kroger explains scan findings. The hull is nearly symmetrical. Minor keel bend to starboard. Port deck high near cockpit. Minor hollow in hull near keel.

21.04.2023 Heiko Kroger issued 2.4 NOD boat scan file. TC noted 2.4 NOD boat scan file Document Control required, Bruce Millar to seek advice on Document Control forms. 2.4 NOD boat scan files issued for building 2.4 NOD boats (high res) or information for prospective builders (low res), no file alteration permitted, 2.4 NOD boat scan files property of ICA.

G 2.4mR Measurement Forms

TC to review 2.4mR measurement forms including certification section for WS approval.

14.12.2022 Rikard Bjurstom to forward eform used for 6m & 8m boats for reference.

18.01.2023 Measurement eform to be reviewed for adoption as 2.4mR measurement form, WS plaque number required on each page.

22.02.2023 Measurement eform to be reviewed for adoption as 2.4mR measurement form, WS plaque number required on each page.

19.04.2023 Peter Russell to seek WS advice regarding adoption of Measurement eform in lieu of printed Measurement Form on WS website.

H 2.4mR Certificates

TC to review standard 2.4mR Certificates for NCAs responsible for class administration.

14.12.2022 Bruce Millar to forward current Canada Rating Certificate for reference, valid Rating Certificate to include Measurement Form and Buoyancy Certificate.

19.04.2023 TC to develop standard 2.4mR Certificate Form for 2.4mR boats certified by NCAs.

I NOD certification

How to get all NOD boats certified? How to inform owners that they are responsible for obtaining NOD certificates and require them to compete at para events? NOD certification explanatory video by Bruce Millar. 2.4 NOD boat event NORs to include requirement for owners to issue certificates to organising authorities.

J Official Measurer training

TC to review measurer training and certification process oportunities?

14.12.2022 Timeline for WS process to IM qualification to be scheduled, 2 events and IM seminar required.

K Buoyancy Checks

TC to establish 'competent persons' register for buoyancy checks. Note; Both 2.4mR and 2.4 NOD buoyancy checks can be preformed by a competent individual assigned by the TC.

14.12.2022 Buoyancy Check certificates register to be established, TC to consider addition to website for event organiser information?

L 2.4mR boat builders

2.4mR builders are as follows:

- ❖ SUPER 3 (UNITED KINGDOM)
- ❖ MALMSTEN BOATS (SWEDEN)

M 2.4 NOD boat builders

2.4 NOD interested builders are as follows:

- ❖ *United Kingdom (Brian Harding)*
- ❖ *USA (Rudy Trejo)*
- ❖ *Australia (Michael Bunyard)*
- ❖ *Germany (Thomas Bergner)*
- ❖ *Finland (Evert Aartsen) – 10 boats to be manufactured 2023, monitoring program to ensure complete boats and payment schedule by FIN.*

TC contact person to be agreed for potential builders.

- ❖ *United Kingdom – TC contact tbc*
- ❖ *USA – TC contact Bruce Millar*
- ❖ *Australia - TC contact Peter Russell*
- ❖ *Germany – TC contact Thomas Jatsch*
- ❖ *Finland - TC contact Rikard Bjurstrom*

14.12.2022 Brian Harding to be advised that 2.4 NOD Accredited Builder Agreement is under preparation, Bruce Millar is happy to be the GBR TC contact person.

14.12.2022 Evert Aartson to be advised that 2.4 NOD Accredited Builder Agreement is under preparation, Rikard Bjurstrom is happy to be the FIN TC contact person.

22.03.2023 Ab Skim Kayaks Finland Oy 2.4 NOD builder represented by Evert Aartsen inspected by IM Matti Muoniovaara and OM Rikard Bjurstrom on 11.03.2023. Hull mould is previously licensed mould. Hull lamination is 3.62kg/m². Bruce Millar to coordinate Accredited Builder Agreement with Evert Aartsen and EC.

25.03.2023 Bruce Millar to coordinate Accredited Builder Agreement with Brian Harding and EC.

19.04.2023 EC to execute 2.4 NOD Accredited Builder Agreement with Evert Aartsen and Brian Harding.

31.05.2023 2.4 NOD Accredited Builder Agreements with Evert Aartsen and Brian Harding being finalised by EC.

Accredited builder submissions shall include the following details prior 2.4 NOD boat certification:

- ❖ *Prototype measurement – refer WS regulation 10.5 (f) (vi)*
- ❖ *Lay-up design*
- ❖ *Hull/keel stiffness*
- ❖ *Chain plate deflection*
- ❖ *2.4mR WS plaque*
- ❖ *2.4 NOD plaque*
- ❖ *2.4 NOD Accredited Builder Declaration*

2.4 NOD accredited builder pathway available for issue to potential builders following receipt of applications.

EC to prepare 2.4 NOD accredited builder agreement.

14.12.2022 Bruce Millar preparing draft 2.4 NOD Accredited Builder Agreement for review.

18.01.2023 Draft 2.4 NOD Accredited Builder Agreement prepared by Bruce Millar reviewed by TC. Key issues:

- ❖ No ICA financial responsibility
- ❖ Complete boats or hull only options
- ❖ Manufacture and/or assembly options
- ❖ Assembled hull to be capable of measurement to 253-254kg weight with 181kg of lead + corrector weight. Seat/headsail boom exclusion permitted.
- ❖ Moulds to be in possession of 2.4 NOD Accredited Builder, ownership not required
- ❖ Production capacity 10 boats per year with 4 month delivery time – failure to meet this requirement does not result in cancellation of Agreement
- ❖ Hull only (includes rudder) definition to be reviewed – ballast? deck separate? fittings? control console? Rikard Bjurstrom to check production weights with Evert.
- ❖ Complete boat and hull only boats 2.4 NOD Accredited Builder declaration forms to be designed.
- ❖ Prototype boat IM measurement check

22.02.2023 Draft 2.4 NOD Accredited Builder Agreement prepared by Bruce Millar reviewed by TC. Final comments from TC to Bruce Millar required by 27 February 2023 to allow for final draft to be submitted for EC approval. Key issues:

- ❖ Hull only to be redefined as base hull only – delete steering pedals, seat, control console, ballast, mast step, manual pump, backstay fittings (except fittings in hull). Headsail boom deck cutout and mainsheet traveller deck cutout to be scheduled as options.
- ❖ Rikard Bjurstrom to check production weights with Evert to inform production weight control plan for hull only boats.

22.03.2023 2.4 NOD Accredited Builder Agreement approved by EC.

- ❖ Rikard Bjurstrom to check production weights with Evert to inform production weight control plan for hull only boats.

TC to prepare 2.4 NOD inspection plan based on builder compliance declaration.

14.12.2022 Peter Russell preparing draft 2.4 NOD Accredited Builder Inspection Plan for review, prototype and boat 2 + 3 measurement and compliance declaration, other boats compliance declaration, checklist required.

18.01.2023 Draft Inspection Plan issued to Bruce Millar for 2.4 NOD Accredited Builder Agreement coordination.

22.02.2023 Draft Inspection Plan reviewed. Hull laminate sample to be weighed for checking compliance and weight photo recorded. Hull only to be redefined as base hull only.

22.03.2023 Waterline Declaration Form requirement deleted – Official Measurer's signature to Measurement Form is compliance with Class Rules H.6. Ballast Declaration Form deleted – requirement included in Accredited Builder Declaration Form. 2.4 NOD Inspection Plan approved by TC.

TC to prepare 2.4 NOD Accredited Builder Declaration Form

22.03.2023 Draft Accredited Builder Declaration Form reviewed. Name of authorised person to be added to signature section. 2.4 NOD Accredited Builder Declaration Form approved by TC.

TC to prepare new 2.4 NOD Hull Stickers for issue to 2.4 NOD Accredited Builders.

22.03.2023 Rikard Bjurstrom to follow up original hull sticker supplier. New 2.4 NOD plaques to commence at no. 1000, different green colour required, reference to «Licence» to be deleted, Bruce Millar to check artwork.

19.04.2023 2.4 NOD Hull Sticker design reviewed:

- ❖ Delete word «Licence», new wording «Fee Paid»
- ❖ Change colour to Forest Green, Bruce Millar to confirm colour PMS
- ❖ Start numbering at 1000
- ❖ Rikard Bjurstrom to confirm 2.4 NOD Hull Sticker quantity with supplier – say 200 stickers

19.04.2023 Bruce Millar confirmed new 2.4 NOD Hull Sticker colour as Pantone 350C. Rikard Bjurstrom confirmed stickers ordered, cost submitted to EC.

N 2.4mR Finland World Championship 2023

TC to review 2.4mR Finland WC 2023 documents.

19.04.2023 2.4mR Finland WC 2023 NOR equipment inspection requirements consistent with TC guidance.

O WC NOR Template

WC NOR template to be deleted from reference documents and the website – not in accordance with current World Sailing (WS) Racing Rules of Sailing.

P World Championship inspection plan and forms

TC to review World Championship inspection plans and forms including - Event Form, Inspection Plan, Haul-out Form and Substitution Form.

Q 2.4mR World and Continental Championship Management Manual update

TC to update 2.4mR World and Continental Championship Management Manual to clarify division scoring requirement.

14.12.2022 2.4mR World and Continental Championship Management Manual v.8 update including division scoring instructions to be issued to ICA for website.

R Measurement Manual update

TC to revise 2.4mR and 2.4 NOD measurement manuals to new 2022 2.4mR and 2.4 NOD class rules.

S Class Rules education

TC to develop a program of class rules education.

The 2.4mR Class is a development class granted international status in 1993. The 2.4mR Class is administered by Member National Authorities (MNAs) under delegation by World Sailing (WS). Where there is no MNA the International Class Association (ICA) may carry out administrative functions.

The 2.4 NOD Class is a restricted class based on the Norlin Mark III introduced in 2011. The 2.4 NOD Class hulls and rudders are manufacturer controlled with rigs and sails measurement controlled. The 2.4 NOD Class is administered by the ICA.

Class Rules are prepared from the World Sailing 'Standard Class Rules template' in accordance with World Sailing recommendations.

«As part of the World Sailing initiative to improve and standardise class rules and certification for the sailor, the Standard Class Rule template and Equipment Rules of Sailing has been developed. Through a common format, individuals can find relevant sections of each class rules easily and effectively. The World Sailing can consult and advise to aid a class in encompassing this rules system within their class. Class Rules are based on the ERS.»

Class Rules are rules that specify the boat, the crew, the personnel and portable equipment, and any other equipment limited by the Class and their certifications and administrations.

The Class Rules are read in conjunction with the Equipment Rules of Sailing (ERS) which provide more general governance of the equipment used in the sport.

It is the owners responsibility to ensure that their boat complies with the Class Rules and has a valid certificate.

22.03.2023 TC advice notes as follows approved by TC for website publication.

- ❖ CARBON MAST SPAR FITTINGS
- ❖ SAIL AREA – sail foot median and tack class rules proposal
- ❖ IS A HATCH AN OPENING
- ❖ IDENTIFICATION ON SAILS
- ❖ SAIL CERTIFICATION

25.03.2023 Deck openings to 2.4mR checked based on averaged dimensions as follows:

- ❖ Cockpit = 0.483m²
- ❖ Mast = 0.009m²
- ❖ Rudder = 0.038m²
- ❖ Other = 0.002m² (shrouds, drains etc)
- ❖ TOTAL = 0.532m²
- ❖ RULE = 0.7m² MAXIMUM

19.04.2023 TC noted advice notes are NOT Class Rule Interpretations – notes advise applicable class rules addressing 2.4mR owner questions.

T Measurer Recognition

TC to develop Measurer jacket/hat for events.

14.12.2022 Thomas Jatsch suggested Measurer jacket/hat be considered for measurere recognition and events.