Special Regulations Sub-committee Minutes

The Special Regulations Sub-committee met at 09:30 – 18:00 hours on Tuesday 10 November 2015 at the Kempinski Hotel, Haitang Bay, Sanya, China.

Please refer to the ISAF website www.sailing.org for the details of the submissions.

Submissions with the prefix 'SR', the final decisions on these will be made by the Oceanic and Offshore Committee held on the 12 November 2015 which, on behalf of Council, approves changes to the Offshore Special Regulations.

Present:

Will APOLD (CAN) – Chairman
James DADD (GBR)
Sten EDHOLM (SWE) – ORC Representative
Patrick LINDQVIST (FIN) (part of meeting)
Renee MEHL (USA)
Haluk SUNTAY (TUR) (part of meeting)
Roy VAN ALLER (NED)

Apologies:

Boris HEPP(GER) – Vice Chairman
David LYONS (AUS)
Christophe GAUMONT(FRA)

Others Present:

Simon FORBES (Technical and Offshore Manager)
Jacques LEHN (FRA)Vice Chairman Oceanic Offshore
Jason SMITHWICK (Head of Technical and Offshore)
Norbert Marin (Technical Co-ordinator)
Stuart CARRUTHERS (GBR) Chairman Int. Regs
Stan HONEY (USA) Chairman Oceanic & Offshore

1. Opening of the Meeting

The Chairman welcomed members and observers to the meeting and highlighted the focus on safety of the sailor and vessel. We should not be looking to require every new gadget, the OSR should be prudent minimum requirements.

2. Minutes of the Previous Meeting

(a) Minutes

The minutes of the Special Regulation Sub-committee meeting of 4 November 2014 were noted as a true record.

(b) Minutes Matters Arising

There were no matters arising not otherwise on the agenda.

3. Deferred Special Regulation Submissions

(a) OSR 3.04.4

Deferred Submission SR09-14 from Sail Canada regarding OSR 3.04.4 Monohull Stability was withdrawn in favour of Submission SR04-15.

4. Special Regulations – Detailed Submissions

(a) OSR 1.01.2 – Alternative equipment exceptions

Submission SR01-15 from the Chairman was received. The submission proposed to acknowledge that large yachts designed and equipped under the certification of a Classification Society may have features and equipment which are appropriate, but which do not comply with the precise text of the OSR.

On a proposal by Will Apold, seconded by Sten Edholm and a vote of 6 in favour, 0 against and 0 abstention, SR01-15 was agreed to be effective 1 January 2016.

Recommendation to the Oceanic and Offshore Committee: Approve

Oceanic and Offshore Committee Decision: Approved

(b) OSR 1.01.3 – Inshore Racing Description

Submission SR02-15 from Category 4 & 5 Working Party Chairman was received. The submission proposed to emphasise the fundamental difference between category 4 and inshore races.

On a proposal by James Dadd, seconded by Roy van Aller and a vote of 5 in favour, 0 against and 0 abstention, SR02-15 was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve

Oceanic and Offshore Committee Decision: Approved

(c) OSR 2.01.6 – OSR Category References

Submission SR03-15 from Category 4 & 5 Working Party Chairman was received. The submission proposes to rename categories 5 and 6 to emphasise the non-linear nature of OSR categories.

On a proposal by James Dadd, seconded by Roy van Aller and a vote of 5 in favour, 0 against and 0 abstention, SR03-15 was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve

Oceanic and Offshore Committee Decision: Approved

(d) OSR 3.04.4 - Stability

Submission SR04-15 from the Chairman was received.

On a proposal by Will Apold, seconded by Sten Edholm and a vote of 6 in favour, 0 against and 0 abstention it was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve

Oceanic and Offshore Committee Decision: Approved

(e) OSR 3.23 – Bilge Pumps

Submission SR05-15 from the Chairman was withdrawn.

(f) OSR 3.29.1(b) – VHF Transceiver Transmission and Reception Test

Submission SR06-15 from Yachting Australia was received. The proposal was to provide an outcome-based transmission and reception requirement.

Sten Edholm seconded the proposal as he wished the submission to be placed on the table for discussion. He had concerns over the wording proposed in paragraph ii) which required a mast head VHF antenna on boats with mast heights over 11m. There was general concern at the practicalities of the proposed paragraph iii) requiring transmission and reception testing.

On a proposal by Will Apold, seconded by Sten Edholm and a vote of 0 in favour, 6 against and 0 abstention, SR06-15 was rejected.

Recommendation to the Oceanic and Offshore Committee: Reject

Oceanic and Offshore Committee Decision: Reject

(g) New OSR 3.30 – Swim/Boarding ladder

Submission SR07-15 from Recovery back on Board Working Party Chairman was withdrawn.

(h) OSR 4.01.2 – Sail Letters & Numbers alternative method of display

Submission SR08-15 from Category 4 & 5 Working Party Chairman. The proposal is to delete from OSR Category 4 a requirement to display sail numbers and letters by alternative means when none of the numbered sails are set.

On a proposal by James Dadd, seconded by Renee Mehl and a vote of 5 in favour, 0 against and 0 abstention SR08-15 was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve

Oceanic and Offshore Committee Decision: Approved

(i) OSR 4.06 – Anchor(s) - Modifications

Submission SR09-15 from French Sailing Federation was received. The proposal is to forbid modifications to anchors.

The submission included photographs of anchors which had been modified, for example flukes had been shortened or bent to facilitate stowage.

James Dadd felt that it was impractical to adopt the wording of the submission. Currently the OSR for Categories 1-4 have no specific requirements for an anchor, so to prohibit modifications is not logical, when you could make your own anchor.

As an observer Chuck Hawley considered the submission a valuable concern, because a modified anchor's performance could be remarkably worse.

On a proposal by Will Apold, seconded by Sten Edholm and a vote of 1 in favour, 3 against and 1 abstention, SR09-15 was rejected.

Recommendation to the Oceanic and Offshore Committee: Reject

Oceanic and Offshore Committee Decision: Reject

(j) OSR 4.07.1 – Flashlights and Searchlights

Submission SR10-15 from Category 4 & 5 Working Party Chairman was received. The proposal is to delete from OSR Category 4 the requirement for a searchlight.

On a proposal by James Dadd, seconded by Renee Mehl and a vote of 5 in favour, 0 against and 0 abstention, SR10-15 was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve

Oceanic and Offshore Committee Decision: Approve

(k) OSR 4.21.4 Swimmer of the Watch bag

Submission SR11-15 from Recovery back on Board Working Party Chairman was received. The proposal is to update the recommendations for 'Swimmer of the Watch Bag'.

On a proposal by Sten Edholm, seconded by Roy van Aller and a vote of 6 in favour, 0 against and 0 abstention it was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve as amended:

Recommendations apply to categories 0-4.

"4.21.4 d) a manually inflated life jacket / 50N life vest"

"4.21.4 f) swimming goggles"

Oceanic and Offshore Committee Decision: Approve

(l) OSR 4.23 Carriage of Pyrotechnic Signals

Submission SR12-15 from Distress Alerting and Location Working Party Chairman was received. The proposal is to amend the mandatory carriage requirement of distress flares.

It was noted that this proposal was a significant fundamental change. The Distress Alerting and Location Working Party report (Item 6(b)) had concluded that adequate non-pyrotechnic distress alerting and location devices are mandated for each category of event in OSR.

As an observer, Nick Elliot noted that pyrotechnic distress flares would still be required for liferafts. Stuart Carruthers also noted that some flag state regulations mandate the carriage of flares for distress alerting dependant on nature of the craft, the nature of the voyage and the area of operation.

Alp Doğuoğlu noted that the working party report which summarised the technical gadgets required by OSR for Distress Alerting and for Location did not really apply to Category 4 events. Stuart Carruthers noted that OSR 3.29 requires in Category 4 a handheld VHF transceiver.

James Dadd considered that in terms of distress location at night, a rescue helicopter needs a spot of light from the casualty, in daylight orange smoke helps the pilot assess wind direction at sea level.

On a proposal by Will Apold, seconded by Sten Edholm, and a vote of 5 in favour, 0 against and 0 abstention, SR12-15 as amended was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve as amended:

4.23 Pyrotechnic and Light Signals

4.23.1 The following quantities of Pyrotechnic signals shall be provided conforming to SOLAS LSA Code Chapter III Visual Signals and not older than the stamped expiry date

~~red parachute flares LSA III 3.1~~	red hand flares LSA III 3.2	orange smoke LSA III 3.3	race category
~~6 delete~~	4	2	MoMu0,1
~~4 delete~~	4	2	MoMu2,3
	~~4 delete~~	2	Mo4
~~2 delete~~	~~4 delete~~	2	Mu4

4.21 Grab Bags

~~4.21.1 (e) 2 red parachute and 3 red hand flares Mu3,4~~

Oceanic and Offshore Committee Decision: Approve

(m) OSR 4.23.2 – Pyrotechnic and Light Signals – Non-flammable gloves

Submission SR13-15 from French Sailing Federation was received. The proposal is to require dedicated gloves for holding distress flares.

It was observed that the fire blanket required by 4.05 could be used to protect hands when holding distress flares.

On a proposal by Will Apold, seconded by Sten Edholm and a vote of 0 in favour, 2 against and 3 abstention, SR13-15 was rejected.

Recommendation to the Oceanic and Offshore Committee: Rejected

Oceanic and Offshore Committee Decision: Reject

(n) OSR 4.24(c) – Lifesling

i) Submission SR14-15 from French Sailing Federation was received. The proposal is to provide a definition of a lifesling .

On a proposal by Will Apold, seconded by James Dadd and a vote of 6 in favour, 0 against and 0 abstention, SR14-15 was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve as amended:

4.24 c) A recovery sling shall be provided, as follows: - equipped with a floating line, minimum length 120 ft (36m) - the buoyancy section (horseshoe) shall be of a minimum 90 Newton (20 lbs) buoyancy - the recovery sling shall be strong enough to hoist a crew member on board	MoMu0,1,2,3
4.24 d) frequent training using the recovery sling connected with a hoisting rig to recover a man over board is recommended.	*MoMu0,1,2,3*

Oceanic and Offshore Committee Decision: Approve

ii) Submission SR29-15 from French Sailing Federation was withdrawn by Jacques Lehn, as the intent of the submission to use a different term from 'lifesling' was incorporated into amendments to SR14-15.

(o) OSR 4.26.4 f) – heavy-weather jib or reefing mainsail for Category 4

Submission SR15-15 from Category 4 & 5 Working Party Chairman was received. The proposal is to offer boats racing in OSR Category 4 races the option of either carrying a heavy-weather jib or having the ability to reef the mainsail.

The submission proposed to adopt the wording "to reduce the luff by at least 40%" in line with 4.26.4(g) (which relates to a mainsail with a 40% reef in the luff as an alternative in Cat 3 to a trysail). During the discussion including Working Party member Alp Doğuoğlu, and observer Thomas Nilsson it was proposed to amend the submission from 40% luff reduction to 12.5%.

On a proposal by James Dadd, seconded by Sten Edholm and a vote of 4 in favour, 0 against and 1 abstention, SR15-15 was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve as amended:

4.26.4 f)	**either** a heavy-weather jib (or heavy weather sail in a yacht with no forestay) of area not greater than 13.5% height of the foretriangle squared, **or mainsail reefing to reduce the luff by at least 12.5%**	MoMu4

Oceanic and Offshore Committee Decision: Approve

(p) New OSR 4.30 – Hoisting Tackle

Submission SR16-15 from Recovery back on Board Working Party Chairman was received. The proposal is to require or recommend a hoisting tackle for the recovery of a man overboard.

It was noted that if the submission was adopted as a recommendation it would not be appearing in the OSR text and would be moved to the Guide to Offshore Personal Safety.

The consensus was that for a full-crewed boat the use of a long halyard on a winch might be simpler and more effective.

On a proposal by Sten Edholm, there was no seconder, SR16-15 was rejected.

Recommendation to the Oceanic and Offshore Committee: Reject

Oceanic and Offshore Committee Decision: Reject

(q) OSR 5.01.1 – Lifejacket

Submission SR17-15 from Lifejackets Working Party Chairman was received. The proposal is Amend OSR 5.01 and 5.02 to:

- be more consistent;
- Irrespective of the age of manufacture of a lifejacket to:

- delete from OSR Category 4 the requirement for a safety harness.
- delete from Category 4 the requirement for a lifejacket spray hood.
- delete the requirement for lifejackets to have an integral harness in Category 3 and 4
- permit a combination of separate lifejacket and harness in Category 3.

On a proposal by Will Apold, seconded by Sten Edholm and a vote of 7 in favour, 0 against and 0 abstention, SR17-15 as amended was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve as amended:

See Appendix 1

Oceanic and Offshore Committee Decision: Approve

(r) OSR 5.01.1 – Lifejacket Lifting Loop

Submission SR18-15 from Recovery back on Board Working Party Chairman was withdrawn as the term 'lifting loop' had been incorporated into the text of SR17-15.

(s) OSR 5.01.2-Lifejacket Spare cylinders

Submission SR19-15 from Recovery back on Board Working Party Chairman was withdrawn and incorporated into amendments to SR17-15.

(t) OSR 5.07 – AIS Personal Locator Beacon

Submission SR20-15 from Recovery back on Board Working Party Chairman was received. The proposal is that AIS PLB´s should be a new requirement, for at least Cat 0-1 races.

As an observer, Stan Honey noted the successful recovery of a man overboard from Clipper yacht CV30 in March 2014. In mountainous wave and rain squalls, after some 45 minutes the casualty saw the yacht coming towards him but was dismayed to see it turn away and reverse its search sweep. At this point he checked his personal AIS beacon and realised that although it was flashing, indicating that it was working, it was actually in test mode. He switched it to transmit, and had to switch it off and on again to get the correct signal. This AIS signal was picked up by the yacht at a range of 1.5 miles on the plotter on the next sweep and the boat turned on the bearing. The casualty was sighted at a distance of 200 metres and the boat approached to recover him.

A comment was made that a personal AIS beacon was inadvertently triggered during the 2015 Fastnet Race and nobody on other yachts reacted. Stan Honey said that the AIS MOB alert had been noted, but as the apparent casualty was proceeding at a speed of 6 knots it was deemed an inadvertent trigger.

On a proposal by Sten Edholm, seconded by Will Apold and a vote of 6 in favour, 0 against and 0 abstention it was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve as amended:

5.07.1		
b(ii)	an AIS Personal ~~Location~~ MOB-Beacon	MoMu0,1

Oceanic and Offshore Committee Decision: Approved

(u) OSR 6.01 – Training – 2 handed races Category 3

Submission SR21-15 from Double-Handed Working Party Chairman was received. The proposal is to introduce a training requirement in Category 3 races for short-handed crew.

On a proposal by Roy van Aller, seconded by Sten Edholm and a vote of 6 in favour, 0 against and 1 abstention, SR21-15 as amended, was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve as amended:

6.01.1	When there are only two crew members, at least one member of the crew shall have undertaken training as in OSR 6.01	MoMu3

Oceanic and Offshore Committee Decision: Approved

(v) OSR 6.04 – Man Overboard Recovery Drill and Safety Routines

Submission SR22-15 from the Royal Yachting Association was received. The proposal is to make it a requirement to routinely practice man-overboard recovery.

On a proposal by James Dadd, seconded by Sten Edholm and a vote of 7 in favour, 0 against and 0 abstention, SR22-15 as amended, was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve as amended:

6.04	Crews shall practice the drill for Man-Overboard Recovery at least annually.	**

Oceanic and Offshore Committee Decision: Approved

(w) OSR 6.05 – Medical Training

Submission SR23-15 from the French Sailing Federation was received. The proposal is require the same percentage of crew for the Medical Training OSR 6.05 as for the Offshore Personal Survival Training Course OSR 6.01

On a proposal by Will Apold, seconded by Sten Edholm and a vote of 1 in favour, 3 against and 3 abstentions, SR23-15 was rejected.

Recommendation to the Oceanic and Offshore Committee: Rejected

Oceanic and Offshore Committee Decision: TBC

(x) OSR Appendix D – Quickstop and Lifesling

Submission SR24-15 from the Recovery Back on Board WP Chairman was received. The proposal is to amend the Appendix title to “Man over Board Recovery” and make editorial amendments.

It was noted that the Appendix will be moved to the Guide for Offshore Personal Safety. As an observer, Chuck Hawley considered that the appendix which recommends a round-up quickly manoeuvre really applies to non-planning symmetrical spinnaker boats. Issues

such as halyard locks and furling sails. The crew of a particular boat need to talk about the factors and look at alternatives to the quick stop.

On a proposal by Sten Edholm, seconded by Renee Mehl and a vote of 6 in favour, 0 against and 0 abstention it was agreed to be effective 1 January 2016 and receive subsequent editing:

Recommendation to the Oceanic and Offshore Committee: Approve

Oceanic and Offshore Committee Decision: Approved

(y) OSR Appendix G – Model Training Course Offshore Personal Survival

Submission SR25-15 from the Chairman was received. The proposal is to implement the recommendations to ISAF from the UK Marine Accident Investigation Branch investigation into the loss of four crew from the Beneteau 40.7 Cheeki Rafiki.

On a proposal by Will Apold, seconded by Sten Edholm and a vote of 7 in favour, 0 against and 0 abstention, SR25-15 was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve as amended:

Amend Title of Appendix G delete: "Survival", insert: "Safety"

Proposal 2 – New paragraph 2.7:

"2.7 Raise awareness of the potential consequences of running aground, and the need to carry out an inspection following any grounding incident, taking into account the danger of potential unseen damage."

Proposal 3 – 4.2.6

"4.2.6 In the event of ~~a~~ keel damage ~~failure~~ a yacht's rapid capsize and inversion is possible, outline the potential cause of keel failure and how it can be avoided, and suggest actions that can be taken when there is concern over the security of a keel. "

Proposal 5 – 11.1.3

"care and servicing of liferafts, stowage ~~(benefits of float free lifesaving equipment)~~ In the event of a yacht capsizing and then inverting in circumstances in which survival is dependent on liferaft availability, it is vital that every effort is made to ensure that a liferaft remains readily accessible and capable of being deployed for use quickly and easily.

Oceanic and Offshore Committee Decision: Approved

(z) OSR Appendix J – Category 5 for Inshore Races

Submission SR26-15 from the Category 4 and 5 Working party was received. The proposal is to delete the existing category 5 entirely and replace it with a simplified more appropriate version.

As an observer , Andrew McIrvine suggested that the requirement for retro reflective tape could be removed.

On a proposal by James Dadd, seconded by Roy van Aller and a vote of 5 in favour, 0 against and 0 abstention, SR26-15 as amended was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve as amended:

Part B Portable Equipment

Regulation	Item

4.22.1 (a)	A lifebuoy with a drogue, or a recovery sling without a drogue. ~~Marine grade retro-reflective tape shall be fitted.~~
5.01.1	(b~~) fitted with marine grade retro-reflective tape~~,

Oceanic and Offshore Committee Decision: Approved

5. Special Regulations – Overall Re-draft Submissions

OSR Re-write submission SR27-15 (OSR Parts 1-6) + Appendix Moveable and Variable Ballast + Appendix Category 5 + Appendix Hull Construction Standards Monohulls pre-2010 and Multihulls was received.

It was highlighted that recommendations will be removed from the OSR text and transferred to a revised Guide to Offshore Personal Safety. It was agreed that in editing the final OSR document that equipment relating to Man Overboard Recovery should be grouped together under a revised 4.22 section.

On a proposal by Will Apold, seconded by Renee Mehl and a vote of 6 in favour, 0 against and 0 abstention SR27-15 was agreed to be effective 1 January 2016:

Recommendation to the Oceanic and Offshore Committee: Approve

Oceanic and Offshore Committee Decision: Approved

i) Appendix –Category 6 for inshore races (rename Appendix L to Appendix. C)

ii) Appendix – 'A guide to ISO and Other standards' to note rename Appendix B to Appendix D – no changes

iii) Submission SR28-15 Re-drafted Appendix –Standard Inspection Card (and rename Appendix C to Appendix F)

iv) Appendix 'Medical Training' – rename Appendix N to Appendix H

6. OSR Working Party Reports

(a) Recovery Back on Board

A report was received from working party of Sten Edhom (Chairman), Stuart Carruthers (GBR), John Rousmaniere (USA),Patrick Lindquist, Christophe Gaumont.

The overall challenge for this report is to get a lost crew member back on board. Recent casualties in e.g. UK, Germany and Sweden has showed the difficulty to make the final lift back in the boat, even if the Person in water (PIW) is close to the boat, even grabbed by the crew on board.

The conclusions of the report are incorporated into Submissions:SR07-15,11-15,16-15,18-15,19-15,20-15,24-15.

(b) Distress Alerting and Location

A report was received from the working party of Stuart Carruthers(GBR- Chairman), Members: David Sutcliffe (CAN), Martin Silk (AUS), Haluk Suntay (TUR), Chuck Hawley (USA).

The working party felt that for some years now, it has become apparent that the

prescribed use of pyrotechnics as a primary visual signal for distress alerting and location has a number of limitations.

The Working Party considered the alternatives to flares in two parts:

i) Distress - what is currently specified or recommended to be carried to raise a distress alert;

ii) Location – what is currently specified or recommended to be carried to indicate your location to someone who is searching for you.

The working parties recommendation is Submission SR13-15 which would:

iii) permit owners and persons in charge to decide what to carry;

iv) be compatible with flag state carriage regulation where it exists;

v) not require the carriage of flares in excess of flag state regulations;

vi) not conflict with recommendatory guidance give elsewhere in OSR;

vii) overcome the cost of replacement and disposal.

(c) Life jacket, harness and safety line review

A report was received from the working party – Stuart Carruthers(Chairman), Guy Perrin (CAN), Patrick Lindquist, Renee Mehl , Andor Serra (ESP) .

The conclusion was Submission SR17-15 which amends OSR 5.01 and 5.02 to:

be more consistent;

Irrespective of the age of manufacture of a lifejacket to:

i) delete from OSR Category 4 the requirement for a safety harness.

ii) delete from Category 4 the requirement for a lifejacket spray hood.

iii) delete the requirement for lifejackets to have an integral harness in Category 3 and 4

iv) permit a combination of separate lifejacket and harness in Category 3.

(d) Review of Categories of Event 4 and 5

A report was received from the Working Party: Mike Urwin (Chairman-GBR) Alp Doguoglu (TUR), David Lyons (AUS) Roy van Aller (NED)

The working party reports were the submissions listed below:

i) Category 4 report (including Submissions:SR02, SR03, SR08, SR10, SR15)

ii) Category 5 report (including Submission SR26-15)

(e) Dyneema Lifelines

At the November 2014 Oceanic and Offshore Committee meeting it was decided to undertake a study of lifeline materials with a focus on the behaviour of synthetic lifeline cordage with respect to:

i) Chafe; and

ii) Burn-through.

ISAF engaged David Lyons to manage the testing and manufacture of a testing rig.

A report was received from David Lyons which is summarised below:

iii) Bench testing

A control material of conventional 316 stainless steel (1x19) 4 mm lifeline wire was included in chafe testing.

Two stanchion types were included in the testing, being a conventional stainless steel stanchion and a composite E-glass stanchion with stainless lifeline hole ferrule.

The testing machine could be configured to evaluate chafe as well as burn-through.

Three grades of Dyneema lifeline material were evaluated:

Dyneema grade	Diameter	Break
HTS-78 uncovered 12-strand single braid 100% Dyneema®	4mm	16kN
WR² standard cover 100% Dyneema®	7mm	33kN
WR² Technora cover	7mm	33kN

By comparison stainless steel wire was used as a control for chafe:

316 stainless 1 x 19	4mm	13kN

iv) Set-up and Methodology

Chafe—The testing machine featured a 1400rpm electric motor which was configurable to provide a fore/aft chafe stroke of 80mm at a frequency of 156 cycles per minute (2.6 return strokes per second). The four lifeline materials were evaluated for chafe under the same conditions with three stanchion configurations, as follows:

Composite/stainless steel ferule, Stainless steel –smooth, Stainless steel-burred.

Burn-through—In the machine's burn-through configuration the line running speed via direct drive from the motor was 7.3m per second. This is considered a suitable line speed if say 20m of spinnaker sheet is eased in 3 seconds in a rapid gybing manoeuvre while running over a taught intersecting lifeline.

(Note: tension in the lifelines during chafe and burn-through testing was 110N – approx. 10 kg force which mimics acceptable lifeline tension on the much longer spans found on racing yachts). A video of dyneema lifeline testing for chafe and burn through was shown to the meeting.

v) Results- Chafe

Lifeline material that showed evidence of chafe:

HTS-78 4mm. This Dyneema had no cover. It showed noticeable chafe after 15 minutes at 2.6 cycles per second = 2,340 cycles when exposed to the stainless stanchion with burred hole. Moderate localised temperature gain was also observed. In subsequent tensile testing the line had lost almost half its tensile strength but still retained a strength of 9kN(approx. 900kg force):

The covered lifeline materials showed evidence of chafe of the cover when exposed to up to 60 minutes of testing (9,360 cycles). The undamaged cores of Dyneema lifelines clearly benefited from their braided protective standard-grade and Technora covers while the stainless steel wire control also performed just as well. The wire started to polish out the burred hole. Heat build-up in the Dyneema was noticeable and measured with a laser temperature gun at 45℃ (20℃ above ambient temperature).

Lifeline	Tension	Deflection	Stanchion	Chafe (duration/mm lost)	Residual measured strength/Original strength kN
Steel	110N	10^o	Composite SS ferule	30 min/ nil	n/a
HTS-78	110N	10^o	Composite SS ferule	30 min/ nil	16/16
HTS-78	110N	10^o	SS smooth	30 min/ nil	16/16
HTS-78	110N	10^o	SS burred	30 min/ **1mm**	**9**/16
WR^2 cover standard	110N	10^o	SS burred	30 min/ nil	33/33
WR^2 cover Technora	110N	10^o	SS burred	30 min/ nil	33/33

vi) Results-Burn-through

As there was no suggestion that burn-through would be an issue with the stainless wire, only the Dyneema lifeline variants were tested. The uncovered Dyneema HTS-78 showed evidence of approximately 25% burn-through while the covered Dyneema didn't show any evidence of burn through after 30 minutes (equivalent to 13 140 m of travel). Note that this is equivalent to the order of greater than 500 continuous gybes of an asymmetric spinnaker on an 18m yacht.

Lifeline	Burn-through (duration/mm lost /original diameter)	Residual measured strength/Original strength kN
Steel	n/a	n/a
HTS-78	30min / 1.2mm / 4.0mm	**8**/16
WR^2 cover standard	30min / 0mm / 7.0mm	33/33
WR^2 cover Technora	30min / 0mm / 7.0mm	33/33

vii) Conclusions

1. Uncovered Dyneema HTS78 is chafe-resistant but susceptible to 50% loss of strength if exposed to a burred metal stanchion hole after approx. 2 000 cycles. The onset of chafe was gradual and noticeable, highlighting the need for remedy similar to the appearance of 'fish-hooks' on stainless steel wire.

2. Uncovered Dyneema HTS78 showed no chafe when exposed to smooth metal stanchion hole ferrules fitted within stainless steel and composite stanchions after 10 000 cycles. Correct ferrule design with respect to 'bell-end' shape and smoothness is essential. A UHMWPE chafe sleeve or tube in way of the ferrule pass through could also be considered.

3. Covered Dyneema WR2 showed chafe to the cover but no loss of strength if exposed to a burred metal stanchion hole after 10 000 cycles. The type of cover made noticeable difference to the chafe resistance of the cover while it is claimed by the manufacturer to afford UV protection and in all instances must be correctly spliced and terminated in accordance with the rope manufacturer's recommendations by a qualified rigger (see Appendix B of the report).

4. Uncovered Dyneema HTS78 exhibited degradation when exposed to burn-through however it should be noted that the exposure was equivalent to 500 gybes.

5. Covered Dyneema WR2 showed no evidence of burn-through.

David Lyons was thanked very much for his work and report. Renee Mehl was asked to provide feedback when possible on the work with Prof Paul Miller and other contacts in and around the US Naval Academy sailing programe.

(f) Stabillity

It was noted that Submission SR04-15 is the report from the Working Party: Stuart Carruthers(GBR) Nicola Sironi (ORC), Dan Nowlan(USA), Mike Urwin (IRC)

7. Oceanic and Offshore Committee Working Party – Structural Integrity

A report was noted from Oceanic and Offshore Committee Working Party chaired by David Lyons, which was set up to review the current plan approval system and the practicalities of requiring in-build inspection.

Key questions were identified:

Does the current ISAF scheme provide for effective design verification?

Does the current ISAF scheme provide any design validation?

Should in-build survey be mandated for OSR Categories 0, 1 and 2?

If in-build survey is mandated, what form should it take?

Haluk Suntay noted that he had supported this approach at several previous meetings.

See November 2015 Oceanic and Offshore Committee minutes Item 4(c) for further details. Oceanic and Offshore Committee decision was: to support the initiative, and ask David Lyons to the finalise the review and to make recommendations regarding in-build inspections for critical features that could lead to catastrophic failure/loss of life. (Haluk Suntay will be added to the working party.)

8. Incident Reports

(a) Beneteau 40.7 'Cheeki Rafiki' Keel Detachment and loss of 4 lives

i) The UK Marine Accident Investigation Branch, summary 'Flyer to the Leisure Industry' (2 pages) was noted.

ii) The UK Marine Accident Investigation Branch report was noted (76 pages), on the investigation of the loss of the yacht 'Cheeki Rafiki' and its four crew in the Atlantic Ocean, approximately 720 mile east-south-east of Nova Scotia, Canada on 16 May 2014.

https://www.gov.uk/maib-reports/keel-detatchment-and-capsize-of-sailing-yacht-cheeki-rafiki-with-loss-of-4-lives

(b) Volvo Ocean Race – 'Team Vestas Wind'

The Volvo Ocean Race Independent Report into the stranding of the yacht 'Vestas Wind' on 29 November 2014 on the Cargados Carajos Shoals 240 nm north east of Mauritius.(80 pages) was noted.
http://www.volvooceanrace.com/static/assets/content_v2/media/files/m36616_team-vestas-wind-inquiry-report-released-on-9-march-2015.pdf

As an observer and member of the report team, Stan Honey demonstrated on the meeting screen the electronic chart software used and the issue of the detail shown at differing zoom levels.

(c) Offshore Sailing Incident Panel

A paper proposing an ISAF Offshore Sailing Incident Investigation Panel was received. The paper was produced following an initiative by Stan Honey(Chairman Oceanic and Offshore Committee).

Many incidents that occur during offshore sailing are not fully investigated or the facts are kept confidential due to insurance company requests. Further, some reports may not be distributed due to the lack of appreciation of the substantial benefit of doing so for the sport of offshore sailing. ISAF should learn more from offshore sailing incidents particularly when the nature of the incident may be related to the safety rules within the ISAF Offshore Special Regulations, or International Standards that relate to offshore sailing yachts and equipment such as yacht structure, stability, lifejackets etc. What ISAF learns should be published to maximize the benefit to the sport. There is much to be learned from excellent practices followed in aviation about the benefits of publishing accident reports.

It is proposed to establish a professional ISAF panel for investigating offshore sailing incidents with the aim of allowing our sport to learn from our failures and identifying areas where our regulations can be improved; particularly related to boat design and stability.

It was felt that progressing this subject would help to evolve a culture for the sport, an owner could refer to an ISAF requirement and say to his insurer, no, I was racing under these rules and I should share this information.

To the question, should ISAF be doing this? the response was positive.

See November 2015 Oceanic and Offshore Committee minute 4(b). The Oceanic and Offshore Committee decision was: "It was unanimously agreed to support the initiative, and ask the Technical & Offshore Department to take steps regarding the budget request and enlist the expertise of panel members."

(d) An annual report from the Secretariat highlighting known incidents that have occurred during races in the past year was received.

9. International Regulations Commission

The Chairman of the International Regulation Commission gave a report, (to be attached to these minutes.

Stuart Carruthers also highlighted that “ISO Standard 19009:2015 - Small craft -- Electric navigation lights -- Performance of LED lights” had recently been published . This is a performance standard to ensure that the light produced is in line with the COLREGS requirements.

10. Any Other Business

Offshore Medical

Margriet Pannevis Chairman of the Medical Commission gave a verbal report on a Offshore Sailing Medical Workshop meeting held earlier in the week, (to be attached to these minutes.)

It was agreed to ask Renee Mehl to monitor developments from the Offshore Sailing Medical Workshop on behalf of the Special Regulations Sub-committee.

Appendix 1 - SR17-15 as amended

5.01	Lifejacket	
5.01.1	Each crew member shall have a lifejacket as follows:-	**
	Lifejackets manufactured before 1 January 2012	
a) i	The lifejacket shall comply with ISO 12402 – 3 (Level 150) or equivalent, including EN 396 or UL 1180. If inflatable have a gas inflation system,	**
ii	shall be fitted with Crotch/thigh straps (ride up prevention system (RUPS))	**
iii	shall be fitted with an integral safety harness in compliance with 5.02	MoMu0,1,2
	Lifejackets manufactured from 1 January 2012 onwards	**
b) i	The lifejacket shall comply with ISO 12402–3 (Level 150) and shall be fitted with: a whistle, a lifting loop, reflective material, an automatic/manual compressed gas inflation system,	**
vi	Crotch/thigh straps (ride up prevention system (RUPS))	
vii	An integral deck safety harness in compliance with 5.02	**MoMu0,1,2
	Notes: Persons of larger than average build are generally more buoyant than those of average build and so do not require a lifejacket with greater levels of flotation. Wearing a Level 275 lifejacket may hamper entry into liferafts.A lifejacket may be equipped with an automatic/manual conversion facility for the inflation system; it shall then additionally meet all the requirements of EN ISO 12402-6, clause 6.3	**
c)	A light in accordance with ISO 12402-8 or SOLAS LSA code 2.2.	MoMu0,**1,2,3**
d)	clearly marked with the yacht's or wearer's name,	**
e)	fitted with a splashguard / sprayhood in accordance with ISO 12402 – 8,	MoMu0,**1,2,3**
f)	Fitted with a PLB unit (as with other types of EPIRB, should be properly registered with the appropriate authority)	MoMu0
g)	It is strongly recommended that a lifejacket has a splashguard / sprayhood See ISO 12402 – 8,	MoMu4

5.01.2	A boat shall carry at least one gas inflatable lifejacket spare cylinder and if appropriate, spare activation head for each type of lifejacket on board.	MoMu0,**1,2,3**
5.01.3	Each yacht shall carry at least one spare lifejacket as required in OSR 5.01.1	MoMu0,**1,2**
5.01.4	The person in charge shall personally check each lifejacket at least once annually.	**