



RE: Annual Report – IRC Rating System

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1. IRC overview:

The IRC Rating System is managed by the IRC Rating Authority (RORC Rating Office & UNCL Centre de Calcul) and further administered by 47 additional offices worldwide, on seven Continents, making it the most widely used Rating System available, with **IRC certificates issued in 49 countries**.

In the past year there have been several major developments within the IRC system: the administrative structure has been modernised and updated to allow sailors from all over the World direct access to the same application portal, with a greatly improved processes to manage their certification, including applications for new certificates, amendments, trials, measurements and copy certificates through a far simpler and centrally controlled and optimised application, including full secure online payment in local currencies. This will be going live internationally for all IRC applications from January 2017. Secondly, the establishment of the **HP30 Class and Fast 40+ classes and the latter competing for the One Ton Cup in September 2016**. Exactly as with the Maxi 72 Class, these boats all race on IRC corrected time, but under tight class limits.

It is also noted that IRC has been a victim of its own success in some ways, with some competitors feeling that IRC better suits the high end campaigns. This is understandable when much of the publicity relates to the top offshore campaigns. However, the roots of IRC are the general cruiser/racer fleet. We recognise that as some areas have selected to limit IRC competition to those with fully measured and “Endorsed” IRC certificates, it has reduced the options for local competition. We have therefore reviewed the processes and now offer both **IRC Endorsded (IRCe)** and **IRC Standard (IRCs)** certificates. The IRCe certificate will only be issued to boats where ALL measurement data has been established through an official IRC measurer and World Sailings IHC system. IRCs certificates will be for any boat where this data is either incomplete or established from standard data. The “owner declared” stage is a misnomer as all data, whether declared or officially provided is audited and compared to other known data at one of the two central offices as well as being reviewed by the local IRC rule authority. So no certificate is issued without at least two reviews prior to issuance. Alongside this we are also recognising the full name of IRC on the logo as the International Rating Certificate.

The hope is that with this process and system being more widely understood, some of the rule authorities will permit the use of IRCs certificates at events and thus encourage the migration of

competition from local performance handicap systems to a rating system without having to have multiple options available to confuse the competitors.

2016 has also seen the resurrection of the IRC European Championships and the introduction of a perpetual trophy for this event. The dates and venue for the 2017 IRC European Championships have already been set and plans are already being agreed for the event to be held in Cowes in 2018, Holland in 2019 and back to Cork for the Royal Cork Yacht Clubs 300th anniversary in 2020.

The list of events which used IRC as the principal Rating System in 2016 continues to grow, with all of the offshore classics apart from the Newport to Bermuda race using IRC as the sole rating system or for the principal trophies. Competition is seen to be growing in this area, which is encouraging for the sport.

It is also very encouraging looking at the number of sailors participating in IRC events around the World. The fleet statistics do not show that the average size of IRC boat has increased over the years. In the last 10 years it has increased by approximately 1.3m. The result is that a head count of crew shows a stable number of competitors in the IRC fleet over this time, taking account of the number of competitors that are now racing double-handed on a regular basis.

2. Technical developments for 2017:

Several areas of IRC have been reviewed over the past year. Continuing on from 2016, the handling of asymmetric sportsboats has been part of an extensive study. For 2017 the changes made for 2016 will be increased further. Whilst it is recognised that the 2016 software changes allowed this type of boat to be more competitive, it is considered that the 2017 changes will produce a balanced result for them in the general fleet.

The way that canting keels and water ballast are rated has also been completely reviewed from basic principles. The result is that we have recognised that boats fitted with both systems have been having some elements over compensated for. The 2017 calculation will deal with these elements more appropriately.

In the same study we have reconsidered the relatively recent development of lateral foils for increasing dynamic stability. Whereas this was previously rated through an addition to hull factor, we now have a far better understanding of the effects of these foils, with the assistance of various design offices and the Wolfson Unit of Southampton University. IRC in 2017 will therefore recognise the effects of these foils in a more realistic manner. However, we will not be rating the full shape and position of the foils as it is considered that the design community should be encouraged to learn and evolve the system to its full potential. It is also recognised that without the design tools and information available from each project, we would be potentially driving the development in the wrong direction.

A rating effect is also being installed for lead that has started to migrate from the keel bulb to the keel fin on bulb keel boats. IRC Rates the bulb weight on these boats, but not the fin weight. As such, some teams have opted to build more complex keel fins that incorporate ballast in them to avoid the rating effect of the bulb, whilst retaining much of the performance advantages. This is a relatively

simple calculation and the lead in fins of such keels will be required to be declared, in writing, so that it is rated appropriately in future.

We have also decided to simplify the IRC approach to aft rigging. Currently backstays, running backstays and checkstays are treated differently within the formulae. It is recognised that only small changes in attachment methods may vary the definition of different types, whilst the performance effect stays the same. As such we will simply be counting the number of stays in future and not the type. This is considered as a benefit to all competitors as the current system does cause some confusion.

More detailed changes include the change of STL definition from applying only to spinnaker tack location, and now being considered for all sail types, as many code zero type sails are flown from this point as are some jibtops etc when using multiple headsail configurations.

3. Technical developments for 2018.

We continue to look into the widening use of whisker poles and their efficiency when used with multiple headsail arrangements when racing offshore. Currently the definitions limit the use to poles that are attached to the mast. We are considering that this is putting unnecessary loads onto mast tubes when a deck fitting may be more appropriate. As such we are looking towards 2018 with a view of possibly permitting outriggers but having a rating effect on their declaration for use whilst racing.

We are also reviewing the use of carbon in the construction of smaller boats. As more cost effective techniques of construction are being developed, the break point of cost efficiency for use of carbon is reducing. We are monitoring this and are considering reducing the rating effects of using carbon in smaller boats into the future.

We will also continue to monitor the effectiveness of the fin ballast rating with the intention that complex keel fin structures should not be encouraged, but we do not wish to direct owners into building new keel fins. We will also continue to monitor the Sportsboat rating effects of the changes made for next year and make any necessary changes.

The measurement of the forestay length (FL) will also be removed as the effect it has on the rating calculation is being reduced further to a point where it will no longer be relevant.

4. Measurement and Rule Authorities.

As noted above, there are currently 49 rule authorities around the world. In 2016 Taiwan and India were added to the list. At the annual IRC Congress, held in Cowes during the weekend of the 8th and 9th October 37 representatives of 15 rule authorities were in attendance. During the year the RORC Rating Office has visited 11 of these rule authorities to provide assistance and learn from the experiences of these areas. It is anticipated that with the introduction of the new ERS for 2017-2020 in January we will carry out further visits in 2017 to ensure that all changes are recognised and adapted to. This will also help introduce the new IRC application software. We continue to work with World Sailing in trying to expand the use of IHC for sail measurement around the world, and the work on the UMS with the ORC and US Sailing continues and is already proving extremely valuable as

data collected from ORCi certificates is now accepted without modification for IRC applications and vice versa.

5. Championship Events

Throughout 2016 multiple IRC National and Continental Championships have been competed in as detailed in <https://www.ircrating.org/75-regattas/racing/460-irc-champs-world> , including National championships in Canada, France, Great Britain, Australia, Belgium, Iceland, Greece, Ireland, Netherlands, New Zealand and the USA. Continental Championships have been held in North America, South America and Europe.

The Rolex Maxi 72 World Championships were also held in Porto Cervo during the Maxi Yacht Rolex Cup, where a record entry of 52 boats competed, 39 of them un IRC classes. Bella Mente retained their title and the fleet is looking to expand with an additional yacht completing construction in preparation for the 2017 season. The event also saw the **Wally Class** (racing under IRC) as the largest class, with the future also looking promising as new boats are in build with a hope that the racing fleet will expand in both number and size range. The **Fast 40+ class** also enjoyed racing under IRC in the first running of the **One Ton Cup** in over ten years. This class is predicted to grow and expand into more international venues in the coming years, and hopes to introduce the One Tone Cup to a new generation of sailors.

Competition in the classic offshore events also saw encouraging numbers with 84 of the 108 competitors in the **Rolex Sydney to Hobart Race** competing for the **Tattersaill Cup** for overall winner under IRC. This was followed by a record 54 entries in the IRC division of the **Caribbean 600** race. Next on the classics calendar was the **Giraglia Rolex Cup** with 139 entries in the 3 IRC classes from 16 countries. With no Rolex Fastnet Race this year the next European based classic is the Rolex Middle Sea Race. At this stage there are 72 confirmed entries in the IRC classes, again representing the vast majority of the fleet and the principal trophy, the **Middle Sea Race Trophy**, being awarded to the overall winner of the IRC classes. We look forwards to continued growth in offshore racing entries into 2017.

6. Fleet statistics

So as to provide more suitable statistics for comparative purposes we have included the total number of certificates issued for each of the last 5 years. From this we can see that the predicted number of certificates for 2016 is in the region of 7,500 worldwide. As noted in point 1 above. Whilst the number of boats may have reduced, the average length has increased by approximately 1.3m. This equates to an average crew number increase per boat of 1 person. Taking the short-handed competitors into consideration, this suggests that a similar number of sailors are competing in IRC in 2016 as have been since 2008. However, it appears that a number have consolidated resources to compete together, or opted to crew for others rather than for themselves. The priority being **the number of sailors actively racing seems very stable within IRC.**

Country	Continent	2007	2008	2009	2010	2011	2012	2013	2014	2015	2015 to 31/8/15	2016 to 31/8/16
GBR	Europe	2043	2029	1806	1766	1702	1551	1378	1407	1574	1500	1535
FRA	Europe	924	1074	937	975	1016	913	859	850	758	676	659
ITA	Europe	931	962	840	905	846	814	716	706	631	485	439
AUS	Oceania	570	528	535	544	525	498	478	452	426	320	286
TUR	Europe	292	327	342	360	363	404	389	357	338	279	240
IRL	Europe	429	455	443	423	386	355	321	335	320	312	301
JPN	Asia	89	122	221	258	276	298	313	311	309	300	290
USA	N.America	610	611	488	464	380	324	273	280	248	219	175
NED	Europe	152	162	172	146	138	149	151	142	147	139	131
SE Asia	Asia	49	64	72	80	77	74	129	118	104	41	38
ESP	Europe	164	165	167	159	169	134	128	109	93	90	101
CHN	Asia	0	0	37	40	46	93	64	96	62	55	58
HKG	Asia	94	120	93	93	97	94	96	88	92	65	68
GRE	Europe	109	101	105	117	104	80	63	74	50	50	37
BEL	Europe	99	100	87	74	76	64	65	72	59	55	45
MLT	Europe	47	65	64	66	62	65	54	68	57	42	38
UAE	Africa	79	67	72	68	53	61	60	58	57	13	13
BRA	S America							34	56	66	57	37
RSA	Africa	84	76	63	55	49	52	64	52	46	12	13
NZL	Oceania	97	94	78	55	46	37	39	45	27	20	17
GER	Europe	39	64	65	53	56	47	46	40	53	48	24
CAN	N America	23	32	51	60	82	67	55	38	39	36	31
ISR	Europe	21	23	23	35	34	43	42	34	1	1	2
CHI	S America				0	89	68	79	32	37	2	1
BUL	Europe		41	42	39	29	29	35	29	26	24	26
URU	S America		47	45	45	27	27	24	24	24	13	2
MRI	Asia							27	17	4	0	6
FIN	Europe		13	34	40	37	22	20	16	13	12	12
ARG	S America	90	37	27	24	13	16	11	13	11	1	0
ISL	Europe	15	14	12	13	10	13	12	13	12	12	12
PHI	Asia	13	12	13	13	14	9	10	9	5	0	0
CRO	Europe		15	20	16	10	15	12	8	13	9	7
NOR	Europe		8	9	16	11	2	7	5	7	5	0
COL	S America					21	16	0	5	9	4	0
TPE	Asia											5
RUS	Asia											10
Worldwide										54		44
Other (<5)	N/A	114	74	215	49	86	0	79	72	14	61	7
	Totals:	7177	7502	7178	7051	6930	6434	6133	6031	5786	4958	4612
	Total	Certs					8744	8122	8213	7721	6478	6234

END