

Heat Management System 2016 v1

Competitors and race committees are recommended to read the rules of this system *with the SIs and in conjunction with the HMS Advice Notes* that are part of this document.

1 GENERAL PROCEDURES APPLYING TO ANY MULTI-HEAT RACE

1.1 Numbers and Size of Heats

- (a) The number of heats in any race shall be as few as possible, taking into account the local conditions and the resources available. The maximum number of heats in a race shall be 5.
- (b) The number of boats scheduled to sail in a heat shall not exceed 24, and the maximum number of boats in an event shall not exceed 84
- (c) The Race Committee may change between HMS Schedules 'B4' and 'B6' when the number of heats can be reduced or there are other circumstances where the change would be beneficial to the event.
- (d) Any change to the number or size of heats shall be announced, confirmed in writing by posting on the Fleet Board section of the Official Notice Board, before the start of the next race.

1.2 Order of Heats

Heats in each race shall be sailed in reverse alphabetical order.

1.3 Boats withdrawn from those scheduled to sail

- (a) Only boats that have been recorded as DNC in the lowest heat can be considered by the race committee for withdrawal from those scheduled to sail.
- (b) The race committee shall withdraw boats from those scheduled to sail when the number of boats still able to sail in the lowest heat falls to 8 or less in HMS Schedule 'B4' or 12 or less in HMS Schedule 'B6'.
- (c) The race committee may withdraw a boat or boats unable to sail, from those scheduled to sail when the number of boats can be reduced or there are other circumstances where rescheduling would be beneficial to the event.
- (d) A withdrawn boat will be recorded as WDN.
- (e) A withdrawn boat or boats may be returned to those scheduled to sail by the race committee following a request from the relevant competitor(s).
- (f) The number of boats 'scheduled to sail' in the lowest heat may vary from the numbers in the HMS Schedules, as a result of returning boats.

1.4 Scoring

The RRS A4 Low Point system, as modified by HMS 2.4 or 3.4 will apply.

1.5 Breaking of Ties

- (a) When a tie needs to be broken to establish the order of *finishing* places between two or more boats in promotion positions at the *finishing line*, or recorded equally at the end of a heat or at the end of the event, it shall be decided in favour of the boat with the most first places and when the tie remains, the most second places and so on. When the tie still remains it shall be decided in favour of the boat with the best score in the last race in which there was no tie and should the tie still remain, by the tossing of a coin or the drawing of lots. This changes RRS A8, which will not apply.
- (b) When boats are tied at the *finishing line*, including ties which may remain after HMS 1.5 (a) has established boats to be promoted, RRS A7 will apply to determine their score.
- (c) When a tie between two or more boats is to be broken in Race 2 or following races, Race 1 scores shall be excluded.

1.6 Excluded scores (discards)

When the total score is calculated for each boat, her worst scores will be excluded as follows:

After 4 races have been completed, 1 discard.

After 8 races have been completed, 2 discards.

After 16 races have been completed, 3 discards and so on for every further 8 races completed.

1.7 Protests

- (a) Protests involving the place of a boat that may be promoted or requests for redress, which may result in a boat being promoted due to its place being adjusted as in HMS 1.8(b), shall be heard before the start of the next heat.
- (b) Protests or requests for redress involving boats which may be placed in a lower heat by the division of the fleet for the next race shall be heard before that division.

1.8 Redress

- (a) Decisions on redress shall be made in accordance with RRS 64.2.
- (b) In all heats the *finishing* place of a boat may only be adjusted if the boat was on the last leg of the course when the incident occurred.
- (c) Should it be necessary to calculate a boat's average score, her Race 1 score shall be excluded.
- (d) Except where HMS 1.8(b) applies in Race 1, requests for redress under RRS E6.6 (e) and (f) may only be made in Race 2 or following races.

2 PROCEDURES THAT APPLY TO RACE 1

2.1 Division of the Fleet

The event shall start with one race in which the fleet (all boats competing in the event), is divided into heats of approximately equal sizes. Each heat shall be seeded to contain boats of mixed ability. Where the ability of some boats is unknown their selection shall be at random.

2.2 Time Out Limit

As an exception to the Sailing Instructions, for Race 1 only there shall be no Time Out Limit. All boats shall be allowed to *finish*, provided that they had started before the leading boat in their heat had *finished* in accordance with RRS 28.

2.3 Order of *Finishing* Places for Race 1

Each heat shall be treated as a separate race. *Finishing* places shall be changed so that boats recorded as DNF, RET, OCS, DNS, DNC, BFD, DSQ, DNE or DGM shall be placed in this order at the bottom of the heat. The order of *finishing* places of boats shall comply with RRS A6.

2.4 Scoring of Race 1

Scoring shall be as RRS A4 Low Point Scoring System except RRS A4.2 is replaced by: "All other boats shall be scored one point more than the number of boats scheduled to sail in the largest heat of Race 1."

3 PROCEDURES THAT APPLY AFTER RACE 1

3.1 Division of the Fleet for Race 2

The *finishing* places in the Race 1 heats are used to create an order of *finishing* places for the fleet with all the heat winners followed by all the second placed boats and so on. This order of *finishing* places is divided into heats with the number of boats in each heat as shown in HMS schedules 'A4' for 4 boat promotion or 'A6' for 6 boat promotion.

3.2 Promotion for Race 2

Except in Heat A the four for schedule 'A4', or six for schedule 'A6', highest placed boats in each heat shall sail in the next heat.

3.3 Order of *Finishing* Places for the next race

The race *finishing* order from the first boat in Heat A to the last boat in the lowest heat shall be modified as follows:

- (a) The *finishing* place of a promoted boat in any lower heat of the same race shall be ignored.
- (b) Boats recorded as DNF, RET, OCS, DNS, DNC, BFD, DSQ, DNE or DGM shall be put in this order in the lowest places in the heat in which they were scheduled to sail.
- (c) All other boats shall then be put in consecutive order within the heat in which they were scheduled to sail, according to their *finishing* places.
- (d) The *finishing* places of boats shall comply with RRS A6 within each heat only.

3.4 Scoring of Race 2 and Following Races

Scoring shall be from the Order of *Finishing* Places for each race using the RRS A4 Low Point Scoring System except RRS A4.2 is replaced by:

- (a) Except for the lowest heat, boats recorded as DNF, RET, OCS, DNS or DNC shall score one more point than the last boat in their heat would have scored if all boats scheduled to sail in the heat had *finished* correctly.
- (b) In the lowest heat boats recorded as DNF, RET, OCS or DNS shall score one more point than the last boat in their heat would have scored if all boats scheduled to sail in the heat had *finished* correctly. This scoring will continue even if the event is reduced to a single heat.
- (c) A boat that retires during a protest hearing after the hearing is found to be valid, shall be recorded as DSQ and scored as in HMS 3.4(b).
- (d) Boats recorded as DNC in the lowest heat and WDN, BFD, DSQ, DNE or DGM in any heat, shall score one more point than the last boat in the lowest heat would have scored if all the boats competing in the event had *finished* correctly.

3.5 Division of the Fleet for Race 3 and Following Races

Boats shall be divided into heats according to the Order of *Finishing* Places in the previous race, with the number of boats in each heat as shown in either HMS schedule 'B4' or schedule 'B6' (Schedules for Race 3 and Following Races).

3.6 Promotion for Race 3 and Following Races

Except in Heat A, the four highest placed boats in each heat shall sail in the next heat if HMS schedule 'B4' is used or the six highest placed boats in each heat shall sail in the next heat if HMS schedule 'B6' is used.

SCHEDULE 'A4' ~ 4 BOAT PROMOTION

Schedule for RACE 2 ONLY

Number Of Boats	2 Heats		3 Heats			4 Heats				5 Heats					Number Of Boats
	A	B	A	B	C	A	B	C	D	A	B	C	D	E	
12	4	8				16	16	16	23	15	15	15	10	16	71
13	4	9				16	16	16	24	15	15	15	10	17	72
14	4	10				20	16	16	21	15	15	15	10	18	73
15	6	9				20	16	16	22	15	15	15	10	19	74
16	6	10				20	16	16	23	15	15	15	10	20	75
17	6	11				20	16	16	24	15	15	15	15	16	76
18	6	12				20	20	16	21	15	15	15	15	17	77
19	8	11				20	20	16	22	15	15	15	15	18	78
20	8	12				20	20	16	23	15	15	15	15	19	79
21	8	13				20	20	16	24	15	15	15	15	20	80
22	8	14	6	6	10	20	20	20	21	20	15	15	15	16	81
23	10	13	6	6	11	20	20	20	22	20	15	15	15	17	82
24	10	14	6	6	12	20	20	20	23	20	15	15	15	18	83
25	10	15	9	6	10	20	20	20	24	20	15	15	15	19	84
26	10	16	9	6	11										
27	12	15	9	6	12										
28	12	16	9	9	10	8	4	4	12						
29	12	17	9	9	11	8	8	4	9						
30	12	18	9	9	12	8	8	4	10						
31	14	17	9	9	13	8	8	4	11						
32	14	18	9	9	14	8	8	4	12						
33	14	19	9	9	15	8	8	8	9						
34	14	20	12	9	13	8	8	8	10	5	5	5	5	14	34
35	16	19	12	9	14	8	8	8	11	5	5	5	5	15	35
36	16	20	12	9	15	8	8	8	12	10	5	5	5	11	36
37	16	21	12	12	13	8	8	8	13	10	5	5	5	12	37
38	16	22	12	12	14	8	8	8	14	10	5	5	5	13	38
39	18	21	12	12	15	8	8	8	15	10	5	5	5	14	39
40	18	22	12	12	16	8	8	8	16	10	5	5	5	15	40
41	18	23	12	12	17	12	8	8	13	10	10	5	5	11	41
42	18	24	12	12	18	12	8	8	14	10	10	5	5	12	42
43	20	23	15	12	16	12	8	8	15	10	10	5	5	13	43
44	20	24	15	12	17	12	8	8	16	10	10	5	5	14	44
45			15	12	18	12	12	8	13	10	10	5	5	15	45
46			15	15	16	12	12	8	14	10	10	10	5	11	46
47			15	15	17	12	12	8	15	10	10	10	5	12	47
48			15	15	18	12	12	8	16	10	10	10	5	13	48
49			15	15	19	12	12	12	13	10	10	10	5	14	49
50			15	15	20	12	12	12	14	10	10	10	5	15	50
51			15	15	21	12	12	12	15	10	10	10	10	11	51
52			15	15	22	12	12	12	16	10	10	10	10	12	52
53			15	15	23	12	12	12	17	10	10	10	10	13	53
54			15	15	24	12	12	12	18	10	10	10	10	14	54
55			18	15	22	12	12	12	19	10	10	10	10	15	55
56			18	15	23	12	12	12	20	10	10	10	10	16	56
57			18	15	24	16	12	12	17	10	10	10	10	17	57
58			18	18	22	16	12	12	18	10	10	10	10	18	58
59			18	18	23	16	12	12	19	10	10	10	10	19	59
60			18	18	24	16	12	12	20	10	10	10	10	20	60
61						16	16	12	17	15	10	10	10	16	61
62						16	16	12	18	15	10	10	10	17	62
63						16	16	12	19	15	10	10	10	18	63
64						16	16	12	20	15	10	10	10	19	64
65						16	16	16	17	15	10	10	10	20	65
66						16	16	16	18	15	15	10	10	16	66
67						16	16	16	19	15	15	10	10	17	67
68						16	16	16	20	15	15	10	10	18	68
69						16	16	16	21	15	15	10	10	19	69
70						16	16	16	22	15	15	10	10	20	70

O N L Y U S E T H I S S C H E D U L E O N C E O N L Y U S E T H I S S C H E D U L E O N C E

For heats other than the lowest, the number of boats 'scheduled to sail' shall include promoted boats from lower heats, in addition to the numbers given in this schedule.

Now go to SCHEDULE 'B4' or 'B6' for RACE 3 and FOLLOWING RACES!

SCHEDULE 'A6' ~ 6 BOAT PROMOTION

Schedule for RACE 2 ONLY

Number Of Boats	2 Heats		3 Heats			4 Heats				5 Heats					Number Of Boats
	A	B	A	B	C	A	B	C	D	A	B	C	D	E	
12										15	15	15	10	16	71
13										15	15	15	10	17	72
14										15	15	15	10	18	73
15										15	15	15	10	19	74
16										15	15	15	10	20	75
17										15	15	15	15	16	76
18										15	15	15	15	17	77
19										15	15	15	15	18	78
20										15	15	15	15	19	79
21										15	15	15	15	20	80
22										15	15	15	15	21	81
23										15	15	15	15	22	82
24	10	14								15	15	15	15	23	83
25	10	15								15	15	15	15	24	84
26	10	16													
27	12	15													
28	12	16													
29	12	17													
30	12	18													
31	14	17													
32	14	18													
33	14	19	9	9	15										
34	14	20	12	9	13										34
35	16	19	12	9	14										35
36	16	20	12	9	15										36
37	16	21	12	12	13										37
38	16	22	12	12	14										38
39	18	21	12	12	15										39
40	18	22	12	12	16										40
41	18	23	12	12	17										41
42	18	24	12	12	18	12	8	8	14						42
43			15	12	16	12	8	8	15						43
44			15	12	17	12	8	8	16						44
45			15	12	18	12	12	8	13						45
46			15	15	16	12	12	8	14						46
47			15	15	17	12	12	8	15						47
48			15	15	18	12	12	8	16						48
49			15	15	19	12	12	12	13						49
50			15	15	20	12	12	12	14	10	10	10	10	10	50
51			15	15	21	12	12	12	15	10	10	10	10	11	51
52			18	15	19	12	12	12	16	10	10	10	10	12	52
53			18	15	20	12	12	12	17	10	10	10	10	13	53
54			18	15	21	12	12	12	18	10	10	10	10	14	54
55			18	15	22	12	12	12	19	10	10	10	10	15	55
56			18	15	23	12	12	12	20	10	10	10	10	16	56
57			18	15	24	16	12	12	17	10	10	10	10	17	57
58			18	18	21	16	12	12	18	10	10	10	10	18	58
59			18	18	22	16	12	12	19	10	10	10	10	19	59
60			18	18	23	16	12	12	20	10	10	10	10	20	60
61			18	18	24	16	16	12	17	15	10	10	10	16	61
62						16	16	12	18	15	10	10	10	17	62
63						16	16	12	19	15	10	10	10	18	63
64						16	16	12	20	15	10	10	10	19	64
65						16	16	16	17	15	10	10	10	20	65
66						16	16	16	18	15	15	10	10	16	66
67						16	16	16	19	15	15	10	10	17	67
68						16	16	16	20	15	15	10	10	18	68
69						16	16	16	21	15	15	10	10	19	69
70						16	16	16	22	15	15	10	10	20	70

ONLY USE THIS SCHEDULE ONCE ONLY USE THIS SCHEDULE ONCE

For heats other than the lowest, the number of boats 'scheduled to sail' shall include promoted boats from lower heats, in addition to the numbers given in this schedule.

Now go to SCHEDULE 'B4' or 'B6' for RACE 3 and FOLLOWING RACES!

SCHEDULE 'B4' ~ 4 BOAT PROMOTION

(SCHEDULE for RACE 3 and FOLLOWING RACES)

Number Of Boats	2 Heats		3 Heats			4 Heats				5 Heats					Number Of Boats
	A	B	A	B	C	A	B	C	D	A	B	C	D	E	
12	4	8				17	17	17	20	14	14	13	13	17	71
13	5	8				17	17	17	21	14	14	14	13	17	72
14	5	9				18	17	17	21	14	14	14	14	17	73
15	6	9				18	18	17	21	14	14	14	14	18	74
16	6	10				18	18	18	21	15	14	14	14	18	75
17	7	10				18	18	18	22	15	15	14	14	18	76
18	7	11				19	18	18	22	15	15	15	14	18	77
19	8	11				19	19	18	22	15	15	15	15	18	78
20	8	12				19	19	19	22	15	15	15	15	19	79
21	9	12				19	19	19	23	16	15	15	15	19	80
22	9	13	6	6	10	20	19	19	23	16	16	15	15	19	81
23	10	13	7	6	10	20	20	19	23	16	16	16	15	19	82
24	10	14	7	7	10	20	20	20	23	16	16	16	16	19	83
25	11	14	7	7	11	20	20	20	24	16	16	16	16	20	84
26	11	15	8	7	11										
27	12	15	8	8	11										
28	12	16	8	8	12	6	6	6	10						
29	13	16	9	8	12	7	6	6	10						
30	13	17	9	9	12	7	7	6	10						
31	14	17	9	9	13	7	7	7	10						
32	14	18	10	9	13	7	7	7	11						
33	15	18	10	10	13	8	7	7	11						
34	15	19	10	10	14	8	8	7	11	6	6	6	6	10	34
35	16	19	11	10	14	8	8	8	11	7	6	6	6	10	35
36	16	20	11	11	14	8	8	8	12	7	7	6	6	10	36
37	16	21	11	11	15	9	8	8	12	7	7	7	6	10	37
38	16	22	12	11	15	9	9	8	12	7	7	7	7	10	38
39	16	21	12	12	15	9	9	9	12	7	7	7	7	11	39
40	18	22	12	12	16	9	9	9	13	8	7	7	7	11	40
41	18	23	13	12	16	10	9	9	13	8	8	7	7	11	41
42	18	24	13	13	16	10	10	9	13	8	8	8	7	11	42
43	20	23	13	13	17	10	10	10	13	8	8	8	8	11	43
44	20	24	14	13	17	10	10	10	14	8	8	8	8	12	44
45			14	14	17	11	10	10	14	9	8	8	8	12	45
46			14	14	18	11	11	10	14	9	9	8	8	12	46
47			15	14	18	11	11	11	14	9	9	9	8	12	47
48			15	15	18	11	11	11	15	9	9	9	9	12	48
49			15	15	19	12	11	11	15	9	9	9	9	13	49
50			16	15	19	12	12	11	15	10	9	9	9	13	50
51			16	16	19	12	12	12	15	10	10	9	9	13	51
52			16	16	20	12	12	12	16	10	10	10	9	13	52
53			17	16	20	13	12	12	16	10	10	10	10	13	53
54			17	17	20	13	13	12	16	10	10	10	10	14	54
55			17	17	21	13	13	13	16	11	10	10	10	14	55
56			18	17	21	13	13	13	17	11	11	10	10	14	56
57			18	18	21	14	13	13	17	11	11	11	10	14	57
58			18	18	22	14	14	13	17	11	11	11	11	14	58
59			19	18	22	14	14	14	17	11	11	11	11	15	59
60			19	19	22	14	14	14	18	12	11	11	11	15	60
61			19	19	23	15	14	14	18	12	12	11	11	15	61
62			20	19	23	15	15	14	18	12	12	12	11	15	62
63			20	20	23	15	15	15	18	12	12	12	12	15	63
64			20	20	24	15	15	15	19	12	12	12	12	16	64
65						16	15	15	19	13	12	12	12	16	65
66						16	16	15	19	13	13	12	12	16	66
67						16	16	16	19	13	13	13	12	16	67
68						16	16	16	20	13	13	13	13	16	68
69						17	16	16	20	13	13	13	13	17	69
70						17	17	16	20	14	13	13	13	17	70

For heats other than the lowest, the number of boats 'scheduled to sail' shall include promoted boats from the lower heats, in addition to the numbers given in this schedule. The number of boats 'scheduled to sail' in the lowest heat may vary from the numbers scheduled, to allow for the return of withdrawn boats.

SCHEDULE 'B6' ~ 6 BOAT PROMOTION

(SCHEDULE for RACE 3 and FOLLOWING RACES)

Number Of Boats	2 Heats		3 Heats			4 Heats				5 Heats					Number Of Boats
	A	B	A	B	C	A	B	C	D	A	B	C	D	E	
24	9	15				17	16	16	22	13	13	13	13	19	71
25	10	15				17	17	16	22	14	13	13	13	19	72
26	10	16				17	17	17	22	14	14	13	13	19	73
27	11	16				17	17	17	23	14	14	14	13	19	74
28	11	17				18	17	17	23	14	14	14	14	19	75
29	12	17				18	18	17	23	14	14	14	14	20	76
30	12	18				18	18	18	23	15	14	14	14	20	77
31	13	18				18	18	18	24	15	15	14	14	20	78
32	13	19								15	15	15	14	20	79
33	14	19	9	9	15					15	15	15	15	20	80
34	14	20	10	9	15					15	15	15	15	21	81
35	15	20	10	10	15					16	15	15	15	21	82
36	15	21	10	10	16					16	16	15	15	21	83
37	16	21	11	10	16					16	16	16	15	21	84
38	16	22	11	11	16										
39	17	22	11	11	17										
40	17	23	12	11	17										
41	18	23	12	12	17										
42	18	24	12	12	18	9	9	9	15						
43			13	12	18	10	9	9	15						
44			13	13	18	10	10	9	15						
45			13	13	19	10	10	10	15						
46			14	13	19	10	10	10	16						
47			14	14	19	11	10	10	16						
48			14	14	20	11	11	10	16						
49			15	14	20	11	11	11	16						
50			15	15	20	11	11	11	17						
51			15	15	21	12	11	11	17	9	9	9	9	15	51
52			16	15	21	12	12	11	17	10	9	9	9	15	52
53			16	16	21	12	12	12	17	10	10	9	9	15	53
54			16	16	22	12	12	12	18	10	10	10	9	15	54
55			17	16	22	13	12	12	18	10	10	10	10	15	55
56			17	17	22	13	13	12	18	10	10	10	10	16	56
57			17	17	23	13	13	13	18	11	10	10	10	16	57
58			18	17	23	13	13	13	19	11	11	10	10	16	58
59			18	18	23	14	13	13	19	11	11	11	10	16	59
60			18	18	24	14	14	13	19	11	11	11	11	16	60
61						14	14	14	19	11	11	11	11	17	61
62						14	14	14	20	12	11	11	11	17	62
63						15	14	14	20	12	12	11	11	17	63
64						15	15	14	20	12	12	12	11	17	64
65						15	15	15	20	12	12	12	12	17	65
66						15	15	15	21	12	12	12	12	18	66
67						16	15	15	21	13	12	12	12	18	67
68						16	16	15	21	13	13	12	12	18	68
69						16	16	16	21	13	13	13	12	18	69
70						16	16	16	22	13	13	13	13	18	70

For heats other than the lowest, the number of boats 'scheduled to sail' shall include promoted boats from the lower heats, in addition to the numbers given in this schedule. The **minimum heat size 'scheduled to sail' for 6 boat promotion is 15** to ensure at least 3 of each heat are neither promoted nor re-scheduled to a lower heat after the division at the end of each race. However, the number of boats 'scheduled to sail' in the lowest heat may vary from the numbers scheduled, to allow the return of withdrawn boats.

Advice to Competitors and Race Committee

Introduction

Originally conceived by Peter Stollery, this heat system produces a close simulation of a fleet race, in which all boats sail together. In this radio racing system the fleet is divided into no more than 5 heats. In the first race, the heats are seeded to contain boats of mixed ability. The results allow the formation of heats with boats of similar ability, which provides good quality racing. In the following races, starting at the lowest heat, the four leading boats of each heat are promoted to and immediately sail in the next highest heat. This is repeated until every heat has sailed, allowing every boat, from whichever heat she started, the opportunity to improve her overall position and the chance to win every race. Normally, when the Race Committee divides the fleet at the end of a race based on the Order of *Finishing Places*, boats that are not promoted stay in their heat and the bottom four go down to the next lowest heat. However, there are exceptions to this, for example between Races 2 and 3 and where the fleet numbers reduce.

General advice

- **Read HMS carefully** before you start - most queries can be avoided. Don't attempt to learn all of HMS by heart - it's much better to just remember the main headings. Always have several copies available & one on the finishing line.
- **Follow the procedures exactly** - they are designed for the smooth running of your event.
- **HMS** is often loosely described as "four up at the end of each **heat** and four down at the end of each **race**". You must **not** think of HMS in this way! "Four up" at the end of each heat may be right, but at the end of each race the fleet is divided using the RACE SCHEDULES. This means that in some circumstances (e.g. between Race 2 and Race 3 for some fleet sizes and when several boats are withdrawn by the Race Committee from those scheduled to sail causing the fleet to be rescheduled) the number of boats which 'go down' after the division is NOT ALWAYS FOUR.
- **Fleet** is the term used to mean 'all of the boats that compete in the event' and a **heat** is a division of that fleet as RRS Appendix E1.2(c)
- **The fleet or 'ticket' board** is used to display each boat in the various heats and to track the progress of each race. It is essential that **competitors pay attention to this Fleet Board** after the division of the fleet at the beginning of every race.

When to choose HMS Schedule 'B4' or HMS Schedule 'B6'

The decision is completely up to the Race Committee although HMS Schedule 'B6' (6 boat promotion) can ONLY be used for entries between 24 and 84 due to the increased number of boats moving between heats. HMS Schedule 'B4' (4 boat promotion) remains the ONLY option for smaller events of 23 boats or less and may be more appropriate in some circumstances. For example, in two heat races or where the Race Committee team is small, 4 boat promotion may be more appropriate to provide the necessary observers. It may also be desirable in some circumstances to use HMS Schedule 'B4' to keep the number of heats to a minimum: for example, with an entry of 35 or 36. However, the Race Committee are permitted to change between HMS Schedule 'B4' and HMS Schedule 'B6' if circumstances change during an event. Any such announcement may be made at any time between races.

IMPORTANT – These Advice Notes assume that HMS Schedule 'B4' is used for Race 3 and following races (i.e. 4 boats promoted). If HMS Schedule 'B6' is used for Race 3 and following races (i.e. 6 boats promoted) all the same principles and advice notes apply, including Time Out Limits etc, but with one simple difference; that for Race 3 and following races six boats are promoted between heats, not four

Heat numbers and number of boats in the heats

RACE 1 - look at the heat numbers in the race schedules to get an idea of the options for the number of heats that could be used. The number of heats in any race shall be as few as possible, taking into account the local conditions and the resources available (size of sailing water, layout of course, visibility from the control area, number of observers, etc). The number of heats that you choose should be the same for Races 1 and 2, unless there are exceptional circumstances with a lot of boats unable to sail etc.

Being in A Heat in Race 1, does not imply any higher status than being in E Heat as each heat shall contain a mixture of competitor ability. **Seeding of skipper ability is ESSENTIAL.** Make an effort to find any available information about competitor ability like the results of previous similar events, DNM rankings, the seeding of competitor on entry forms etc and envisage an order of likely results and divide into Race 1 heats. Where competitor ability is unknown selection at random can be done in several ways. If in doubt one method for selecting the order of the boats remaining after the seeding is recommended.

The remaining unseeded boats can be given an order by sorting alphabetically according to their national letters and within the national letters according to the ascending sail numbers. This order will be sorted into the heats in the order A,B,C,D,E,E,D,C,B,A and so on.

RACE 2 - In the RACE SCHEDULES, the numbers given in the higher heats (A, B, etc) will eventually have the promoted boats from the lower heats added to them to make up the number "scheduled to sail". It is most important that the numbers of boats in **HMS** schedule 'A4' or 'A6' (*SCHEDULE for RACE 2 ONLY*) are followed exactly. In the tables below the bold horizontal lines divide the order of finishing places for Race 1, with A1 being the first boat in Heat A, B1 being the first boat in Heat B etc. The table is an example of the division of the fleet of 80 boats. In this case heats A to D contain 3 boats from each Race 1 heat while heat E has the reminder which is 4 boats from each Race 1 heat.

Division for Race 2 with 80 boats	Race 1 'order of finishing places' :				
	A1 is first boat in Heat A and so on				
Race 2 Heat A	A1	B1	C1	D1	E1
	A2	B2	C2	D2	E2
	A3	B3	C3	D3	E3
Race 2 Heat B	A4	B4	C4	D4	E4
	A5	B5	C5	D5	E5
	A6	B6	C6	D6	E6
Race 2 Heat C	A7	B7	C7	D7	E7
	A8	B8	C8	D8	E8
	A9	B9	C9	D9	E9
Race 2 Heat D	A10	B10	C10	D10	E10
	A11	B11	C11	D11	E11
	A12	B12	C12	D12	E12
Race 2 Heat E	A13	B13	C13	D13	E13
	A14	B14	C14	D14	E14
	A15	B15	C15	D15	E15
	A16	B16	C16	D16	E16

RACE 3 and following races - After Race 2, HMS schedule 'B4' and 'B6' for **RACE 3 and FOLLOWING RACES** are different because they makes the numbers in each heat as equal as possible, which is one of the objectives of **HMS**. *After you have used HMS schedule 'A4' or 'A6' (for RACE 2 ONLY) please turn to either HMS schedule 'B4' or HMS schedule 'B6' so that you don't use HMS schedule 'A4' or 'A6' again!!!*

At the start of a heat ~ Advice for the race committee and line judges

As the boats manoeuvre before the start, check that they are all there. Record any that are not as DNC. At the first windward mark check the boats again. Any missing may be DNS. Record any DNC, DNS or OCS on the Heat Record Sheet.

At the finish of a heat ~ Advice for the race committee and line judges

At the finish you should record the sail number every time a boat crosses the line. It may do so more than once; after taking a penalty for example. Sort out later, with advice from observers/umpires, which is the proper finish. When the first boat in the heat *finishes*, **record the time of finishing**. Initially, other boats have 5 minutes in which to *finish*.

At the finish of a heat – Time Out Limit ~ Advice for line judges/observers/umpires

In some heats, most often in light airs, several boats may not *finish* within the 5 minute Time Out Limit. You should be able to see this coming and have plenty of time to prepare and discuss the progress of the race with observers/umpires etc. In particular it is a good idea to take an order of the last 6 boats at the final mark or against some other marker as an order to refer to if there is any doubt about placing the last 4 at the end of the Time Out Limit. Note that in Race 1 there is no Time Out Limit.

If the 5 minute Time Out Limit runs out and there are still boats *racing*, check with the observers and if you haven't already done so, make a note of those still *racing* that are OCS or did not comply with the 'round the ends' rule, or have not sailed the correct course as RRS 28.

Of the remainder, if there are 4 boats or fewer still *racing* on the water, immediately record their places on the water in conjunction with the umpires/observers as if they had *finished* at that point.

If there are more than 4 still *racing* on the water, the Time Out Limit is extended until only 4 boats remain *racing* on the water.

At that point record their places on the water as above.

All other boats not accounted for may be as noted below and recorded as such:

- DNC – did not come to the starting area
- OCS – on the course side at the starting signal
- DNS, that did not start other than OCS and DNC; you probably have those noted at the first windward mark,
- BFD – disqualified under black flag rule
- DNF - did not *finish*, those that have not completed the course properly as RRS 28; observers can help to identify them,
- RET - retired after equipment failure, receiving help after being 'disabled', breaking a rule that caused damage etc or retired after *finishing*,
- DSQ - disqualified (on the water by umpire, if the heat is umpired) or after protest hearing.
- WDN – withdrawn from those scheduled to sail. This is an abbreviation specific to HMS. Please make sure that all the other abbreviations are correctly recorded as in A11.

The list above does not include the lesser used abbreviations. The definitions are also shown on the Heat Record Sheet.

At the end of a heat

After checking any changes to the *finishing* order, by OCS, RET etc **move boats up as soon as possible on the fleet/ticket board** from the heat below to determine boats for the next heat. **There is no need to use a computer at this stage**. Arrange the 'tickets' in the correct finishing order after each heat has *finished*. This can save a lot of time when rearrangement is necessary due to boats being unable to sail or a DSQ, as confirmation with the paperwork can then be handled very quickly indeed.

After the division of the fleet for the next race the information about the boats in each heat can be marked up by hand directly from the Fleet Board onto the Heat Record Sheets for the next race.

Withdrawn boats ~ principle updated in 2014

The point at which it is **necessary** for the race committee to withdraw boats from those scheduled to sail, is clarified by setting a minimum number to maintain reasonable competition in the lowest heat. This removes the need for race committee's decision-making and when the number of boats scheduled to sail is fluctuating, saves rescheduling time that can be used for *rac*ing. The race committee will leave boats currently unable to sail, and recorded as DNC, in the lowest heat, until the number that are able to sail in that heat falls to twice the number to be promoted. When there are 8 or less (or 12 or less) the race committee will automatically withdraw boats from those scheduled to sail. When boats are DNC for several races, it is no longer necessary to re-schedule to a different fleet size. There is a new abbreviation, WDN for withdrawn boats which score total number competing + 1.

A withdrawn boat may return to the lowest heat after informing the race committee. The boat's ticket can then be replaced on the Fleet Board. Until there is a rescheduling, the numbers in the lowest heat may be greater than that shown in the schedules. This is no problem provided that the number of boats in the lowest heat does not exceed 24.

A boat or boats that are unable to sail, and DNC in the lowest heat, **may** be withdrawn from those scheduled to sail when the number of heats can be reduced or where rescheduling could be beneficial to the event.

Scoring ~ An example with a 16 boat entry and manual results sheet

The Heat Record Sheet, on the last page of this advice note, has spaces for *finishing* times of the heat, columns for the boats 'scheduled to sail', the *finishing* order, comments and a full description of the RRS A11 abbreviations that apply. The example, which is applicable to all heats except in Race 1, shows the continuity of the sequence of points for those who have *finished* correctly and includes those who may have been recorded DNF etc. Note that boats placed in lower heats shall be scored as if boats recorded as DNF, RET, OCS, DNS, DNC, BFD, DSQ, DNE and DGM in higher heats had *finished* correctly. This does not comply with RRS A6. The boat having Redress given (RDG) in this case - 'average points at the end of the event', is clearly marked - she would have scored 7 points otherwise. The scores can be simply transferred to the computer or master score sheet. If a manual score sheet is used, listing the boats in Sail Number Order can speed up the process.

Heat A finishing order		
Order	Comment	(score)
A1		1
A2		2
A3		3
A4	DSQ	17
A5		4
A6		5
A7		6
A8	Redress	RDG
A9	DNF	11
A10	DNC	11

Heat B finishing order		
Order	Comment	(score)
B1 -	to Heat A	
B2 -	to Heat A	
B3 -	to Heat A	
B4 -	to Heat A	
B5		11
B6		12
B7	DSQ	17
B8		13
B9		14
B10		15

The example continues with the **ORDER OF FINISHING PLACES** for boats "scheduled to sail" in the **next race**. **Heat B** - A8, A9, A10, B5, B6, B8, B9, B10, A4, B7 **Heat A** - A1, A2, A3, A5, A6, A7

Scoring after redress

If 'average points for the event' are awarded for redress in a heat a score cannot be properly awarded until the end of the event. RDG should be placed in the appropriate "box" for that boat's score. Only the score for the boat given redress is adjusted. The scores of the adjacent boats and the boats below are not altered.

Heat Record Sheet

Start time		Time of 1 st boat to finish	HOUR	MIN	SEC	Race Heat	
Wind, weather etc		Time of last boat to finish					
Boats 'scheduled to sail'	Check boats before start of heat	Finishing places		OCS, DNC, DNS, DNF, etc or after the finish RDG, RET, DSQ etc	'Order of finishing places'	Score	
boats should be sailing in this heat. List all the sail numbers		SAIL NUMBER					
1		1					1
2		2					2
3		3					3
4		4					4
5		5					5
6		6					6
7		7					7
8		8					8
9		9					9
10		10					10
11		11					11
12		12					12
13		13					13
14		14					14
15		15					15
16		16					16
17		17					17
18		18					18
19		19					19
20		20					20
21		21					21
22		22					22
23		23					23
24		24					24

Abbreviations for the finishing line judges:

Please record 'lettered' finishing places correctly

- DNC** - did not come to the starting area,
- OCS** - on the course side of the starting line at the starting signal, did not return and so failed to start,
- DNS** - that did not start other than OCS and DNC,
- BFD** - disqualified under black flag rule,
- DNF** - did not finish, did not complete the course properly as RRS 28
- RET** - retired after equipment failure, receiving help after being 'disabled', breaking a rule that caused damage etc. (or after finishing),
- DSQ** - disqualified (on the water by umpire if the heat is umpired) or after protest hearing.

Copy and reduce this to A5 or use at A4

Observers:	Umpires:
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Producing A5 booklets from A4 documents.

Many of the documents used for radio sailing rules and regulations, such as HMs and the SSIs, are published in pdf form on A4 pages.

It is often convenient to have them printed as A5 booklets and this can easily be accomplished using the Print menu in Adobe Acrobat Reader.

When Print is clicked a new window appears giving lots of options. Select your printer and if not already set to print on A4 set that too.

Under Pages to Print set All

Click on Booklet and then set Front side only and Binding Left, in the Booklet subset.

Set Orientation to Portrait.

Now print one side of all of the sheets.

Note how your printer delivers the sheets.

Decide how to put the sheets back into the printer to print the other side.

Now set the Booklet subset to Back side only and print the other side.

It may take a bit of experimentation to work out how to turn the sheets around when printing the other side. Typically you simply turn them over lengthways, i.e. you rotate about the short end of the A4 sheet.

If you have a clever printer that can automatically print booklets then you won't need any help!