

An  
**Absorbing  
Interest**

the America's Cup. A history 1851 - 2003

*By Bob Fisher*



# Science prevails over art

The folly of the San Diego Yacht Club in leaving itself wide open to a Deed of Gift Challenge was undesirable – a fact appreciated by the sailing world at large and most particularly by the entire America's Cup community. To avoid repetition, San Diego Yacht Club consorted with the other Trustees of the Cup and issued a protocol that sought to clarify the situation regarding multiple challenges for future Cup series.

It was issued before the racing of the 27th Challenge had been completed, but not finally adopted until a month after the racing had been concluded. It read:

## THE "SAN DIEGO PROTOCOL" (adopted September 8, 1988)

San Diego Yacht Club believes that a mechanism for the resolution of disagreements between the Defending Yacht Club and the Challenging Yacht Clubs without resort to litigation is highly desirable. Toward that end, San Diego Yacht Club has consulted with the former trustees of the America's Cup, New York Yacht Club and Royal Perth Yacht Club, as to the establishment of a Trustees' Committee composed of a representative appointed by each of the three clubs which, if San Diego Yacht Club is the defender for America's Cup XXVIII, would be empowered, as more particularly set forth below:

- (a) To resolve disputes between participants in America's Cup XXVIII other than disputes concerning the racing rules or any applicable class or rating rule;
- (b) In the event of disagreement among challengers, to designate the Challenger of Record; and
- (c) In the event of disagreement between San Diego Yacht Club and the Challenger of Record, to determine the mutual consent matters identified below.

San Diego Yacht Club therefore resolves:

1. Should San Diego Yacht Club successfully defend the America's Cup in America's Cup XXVII, the club will accept all bona fide notices of challenge from qualified foreign yacht clubs delivered within 60 days of the conclusion of the present race series, and such challenges will be deemed to have been received at the same time. Such period shall be known as the "Challenge Period". If there is more than one such challenge, San Diego Yacht Club will, within 48 hours following the Challenge Period, appoint one of the Challenging Yacht Clubs to convene a meeting of the challengers to elect a Challenger of Record, and the provision of paragraphs 2. and 3. shall apply.
2. The Challenging Yacht Clubs shall elect a Challenger of Record and notify San Diego Yacht Club of such election within 30 days following the Challenge Period, which following period shall be known as the "Challenge of Record Period". In such election, each Challenging Yacht Club shall have one vote. If any one yacht owner, or party related thereto, is involved in more than one challenge, that owner or party shall be excluded from being represented in such election by more than one yacht club. If the challengers are unable to elect a Challenger of Record within the Challenge of Record Period, the Trustees' Committee shall appoint the

Challenger of Record within seven days.

3. Within 45 days following the Challenge of Record Period, the Challenger of Record shall submit to San Diego Yacht Club the class of vessel nominated by the challengers to be used by both the challengers and the defender for America's Cup XXVIII and the challengers' proposals for the dates, the number of races and the types of courses for America's Cup XXVIII (hereinafter "the four mutual consent items"). Should San Diego Yacht Club not concur with the challengers' proposals regarding one or more of the four mutual consent items, San Diego Yacht Club and the Challenger of Record will attempt to resolve any differences through negotiations. If the negotiations are not successful, the Trustees' Committee shall, on the 46th day following the Challenge of Record Period, commence a mediation of all unresolved mutual consent issues. If such mediation is unsuccessful, the Trustees' Committee shall, within 90 days following the Challenge of Record Period, decide the unresolved issues by choosing between the respective proposals submitted to the committee by San Diego Yacht Club and the Challenger of Record.

4. The Challenger of Record shall organize and conduct a Challenger Round of elimination races preceding the match, in which all of the challengers whose challenges are so accepted shall be entitled to participate. The winner of the Challenger Round, if not the Challenger of Record, shall be substituted for the Challenger of Record and be entitled to sail the match for the America's Cup.

5. It is the preference of San Diego Yacht Club that America's Cup XXVIII be held on approximately May 1, 1991, in the waters of the Pacific Ocean off San Diego, California; provided, the match will be held no earlier than 24 months after the conclusion of all proceedings, including any legal proceedings, relating to America's Cup XXVII.<sup>1</sup>

6. In addition to all other requirements presently existing under the Deed of Gift, all challengers for America's Cup XXVIII shall be required to undertake that they will be bound by the conditions specified in this statement.

7. Depending upon the experience received from the implimentation [sic] of the above challenge procedures for America's Cup XXVIII, it is the intent of San Diego Yacht Club, Royal Perth Yacht Club and New York Yacht Club to consider an application to the New York Supreme Court to have the Deed of Gift amended substantially as set forth above.

SAN DIEGO YACHT CLUB

C. Douglas Alford - Commodore

The document was undersigned by Frank Snyder.,

<sup>1</sup> The final decision of the Court of Appeals of the State of New York upholding the validity of San Diego Yacht Club's 1988 Defense of the Cup was not rendered until April 27, 1990, thereby delaying the next Match until 1992. Because a match cannot be held in the Northern Hemisphere until after May 1 in any year (see Deed of Gift and Southern Hemisphere Amendment), it was agreed the 1992 Match will begin May 9.

Italy's *Il Moro 5* skippered by Paul Cayard, shaping up against Bill Koch's US defender *America 3* during the 1992 Cup races off San Diego.

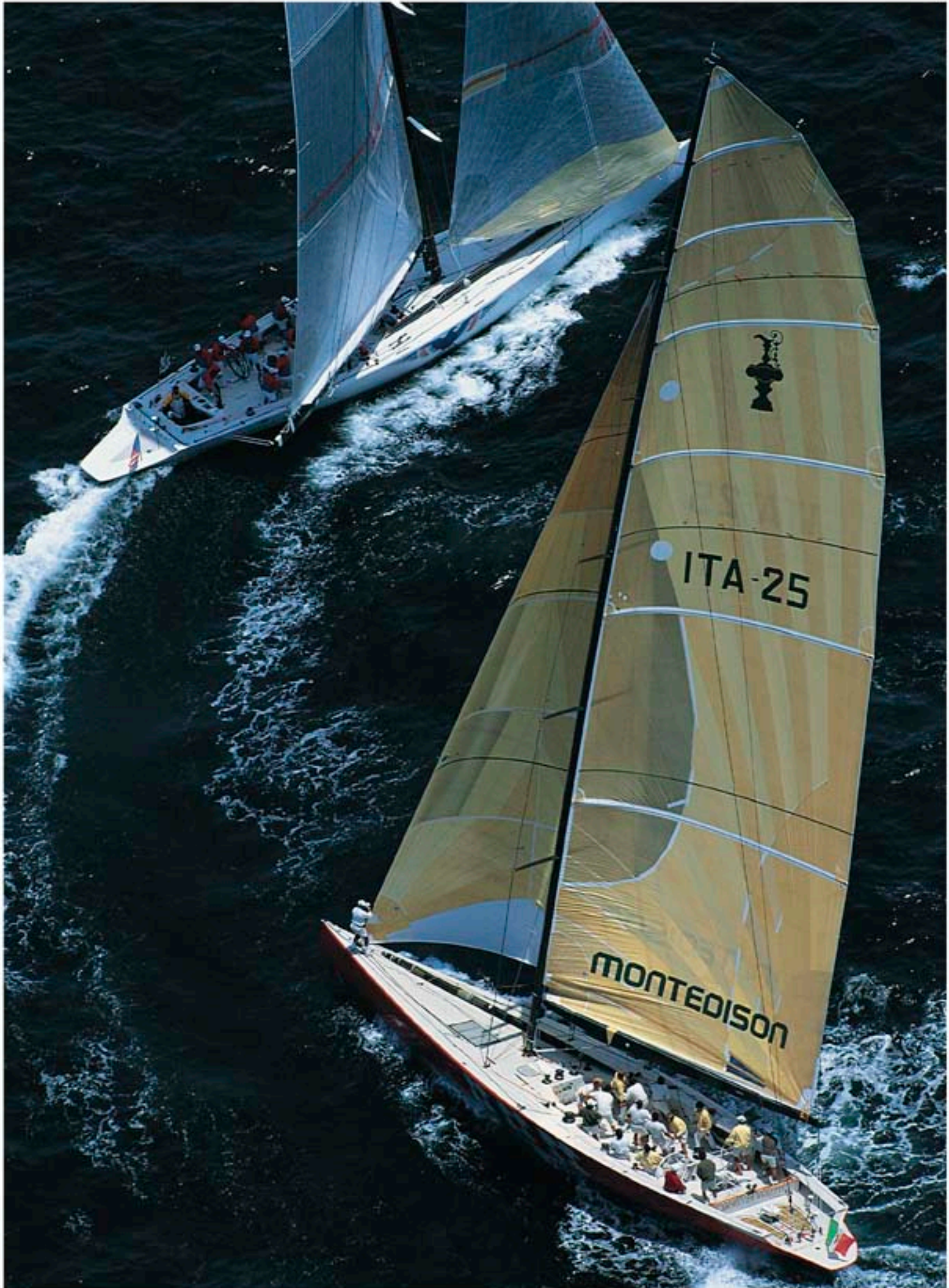


PHOTO: BOB WILSON

Commodore of the New York Yacht Club and Peter G. Johnson, official of the Royal Perth Yacht Club who agreed to participate in the Trustees' Committee. The Deed was witnessed by William B. Packer and Alan Bond.

Equally important to the future success of the Cup was the choice of vessel in which it should be sailed. There had been initially suggestions that the 12-Metre might be "turbo-charged" in order to satisfy better the light weather conditions expected off Point Loma, where the racing would be held. These ideas were soon scrapped on the grounds that they were regressive rather than progressive and it was felt that it was high time to move on from the 1906 concept of this class.

It became the concern of the designers who had been involved in one form or another with America's Cup yachts and they took the challenge seriously. One of their number was Bruce Kirby, who had designed Canada I and recreated her as Canada II. In addition to his yacht designing ability, Kirby was additionally a journalist and produced the following article for the official programme of the Louis Vuitton Cup that explains how the panel of 25 designers was assembled, their intentions and how they dealt with the problems of formulating a rating rule for a proposed class for the America's Cup. It was entitled, *Raw Power and Splendor*.

"When you see the new America's Cup boats hustle to windward, sprint across the reaches, and stride down the runs, when you witness the maneuverability and acceleration, the raw power and the splendor, you will understand why the 25 designers who produced the new class in a highly concentrated and unforgettable few weeks are so proud of their work.

"For 30 years the 12-Meter was the lens through which the world focussed on the America's Cup. It revealed a solid, somewhat conservative, and comfortable picture. Now the lens has become far more complex and the picture has yet to come into perfect focus. The new boats are longer, wider, deeper, taller, and have more sail area than the 12-Meters they replaced. But they are also thousands of pounds lighter. They have more of what produces speed and less of what detracts from it.

"Although there had been considerable spadework done earlier, the design process really began during the America's Cup mismatch of September 1988. It took a day or two for most of the designers to realize that we were involved in something very special - the creation of an entirely new and, if we did our jobs well, a very important racing class. This was the boat that would be used in the America's Cup for the foreseeable future, it was a class on which hundreds of millions of dollars would be spent, on which dreams would be built, fantasies acted out, and hopes realized or shattered.

#### **Murray's idea unfolds**

"In June 1988, during the 12-Meter World Championships in the Swedish city of Lulea, Iain Murray of Australia presented to the International 12-Meter Class some ideas for a larger, lighter boat that would be administered by the same class body. He called it a 25-Meter. Its maximum waterline length was 65.6 feet, making the overall length something near 85 feet. Murray was talking of a development class in the manner of the Meter boats - a boat that would be designed within a set of parameters, with the normal tradeoffs of length, sail area, and weight.

"By September the word was out to most of the world's designers, and when we sat down in San Diego, Bruce Farr from New Zealand came up with some advanced ideas for a "measurement class" - a design with overall limitations, but virtually total freedom within those limitations.

"When we sat down in Southampton for the meetings that made the major decisions, the prescription was for a boat of about 75 feet overall, and a waterline length of 55 to 58 feet. Most of the designers had come to the meeting convinced that a development rule, not unlike the 12-Meter rule, but producing a very different boat, was the right way to go.

"Perhaps more interesting was the insistence by the syndicate representatives, spearheaded by Australia's Syd Fischer, that the new boats be the fastest and most high-tech monohull day racers in the world. These gentlemen did not want to have boats slower than an IOR Maxi, nor a boat less sophisticated in its structure, fittings, sails, and rigging.

"Peter de Savary's British Blue Arrow design team, which did a great deal of the preliminary research and development on the new class, hosted the Southampton meetings. They arranged for two conference rooms in a small hotel, and set up computers capable of turning out hull lines on the spot.

"Many times since these sessions people have asked: "How did 25 designers manage to get along for five days and agree on anything?" The answer is there was virtually no disagreement. We all knew what we were being asked to produce and we knew in general terms how to produce it. It had to be long and light, with a lot of sail; and it must not break or hurt anyone.

"General sessions were held first thing in the morning and again in the evening. This way, the potential syndicate managers kept up to date, but did not interfere with the design process. When the custodians of the purse strings left the room, there would be an open discussion of progress and problems before the designers split into their specialized categories to sort out the details.

"One of the highlights of these sessions was provided by the Nippon Challenge design team led by Ken Nomoto. They participated actively, took a lot of notes, and at the end of each day's session would retire to their hotel where they would put together a report for their head office in Japan.

"During Southampton's sleeping hours the team in Japan would go over the ideas and conclusions and come up with some of their own. These would be faxed back to England, arriving in time for the next day's sessions.

"The various teams were able to get a generic America's Cup Class hull and rig into the computer and out on to the plotter after a couple of days. We then worked on stability, using various vertical centers of gravity, which were largely dictated by keel weight and how much of that weight was in the bulb at the bottom. It became obvious early that if we put a rig on the boat that would give the performance desired for the length and weight chosen, the necessary stability could be achieved only with a great lump of weight right at the bottom of the deep keel.

"By this time we had decided on a draft of 13 feet. Some of the designers would have liked a little more for the type of boat that was emerging, but there were the practical considerations of getting into harbors and moving the boats around on shore.

"Items such as hull and rig weights were done by educated guess - not difficult when you have that many educated

Moment of victory. *Il Moro 5* beat *New Zealand* in a hard-fought final for the Louis Vuitton Cup to win the right to compete against *America's Cup*. Victory in the Louis Vuitton Challenger series was sweet but short-lived. Bill Koch's American defender beat the Italian challenger 3:1



guessers. From hull shape, stability, and sailplan, the next reasonable step was to produce performance prediction curves. Comparing the new boat with an IOR Maxi, the computer said the Cup boat would be faster upwind and down, with the possible exception of upwind in heavy weather and a lot of sea. Reaching and running in any breeze would be no contest, and it was obvious that in 18 knots and more the new boats would become exciting surfing machines. This has all come to pass, and as design teams have worked to refine the product the boats have proven to be faster than those early computer models.

"One critical area had defied final definition through all the meetings - the boat's structure. It had been assumed from the beginning that hulls and spars would be made of carbon fiber and core composites, perhaps with some Kevlar here and there. But there was a problem deciding on a scantling rule - a rule that would dictate the structure of the skin and framing of the boats. An early and popular proposal was there be no rule at all. The idea being that no designer or builder would want to produce a boat that would break.

"That plan was pretty well nailed down in Southampton until Syd Fischer asked the question: "Will there be a life for these boats after the America's Cup?"

"If we were going to think beyond the America's Cup, there needed to be a rule on total skin thickness. This suggested a foam core with carbon outside and in. There was some soul searching on whether the afterlife of these boats should be our concern, and the decision was made that only the hulls would be designed with an eye to the future. These would be beautiful shapes which could make great conversions to fast cruising boats. The rigs would have to be changed, along with the keels, but the hulls should be built to survive the Cup wars.

"As the meetings broke up there was a great feeling of accomplishment and amazement that it had all gone so well. Never before had a new class been created specifically for an important event. And the bulk of the job had been done in two, week-long sessions involving about 25 people, plus some important advisors and some welcome drop-in guests.

"During the final meeting in London an older gentleman came quietly into the room and sat down. Only a few of us knew who he was, but when he quietly pointed out an error in the mathematics of the rating formula, heads turned, faces went red, and most of those present suddenly realized that Olin Stephens, designer of eight Cup defenders, at the age of 83 had honored us with his presence."