

# Electric Boat NEWS

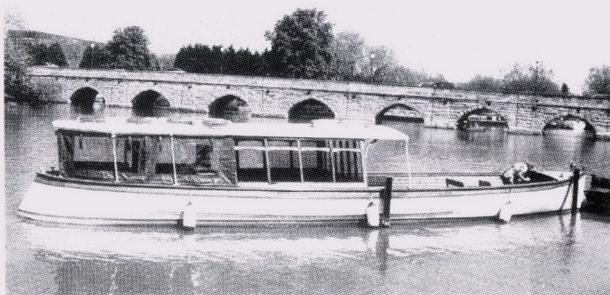
The Journal of the Electric Boat Association



**Solar ships for the new Millennium • Boat Safety Scheme Review  
Frostbite Cruise on the Broads • News from Home & Away**



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Mayflower, Stratford upon Avon, 1999

#### Some recent achievements:

World Waterspeed Record, 1989  
Trip Boat, Castle Howard, Yorkshire  
Sail Auxiliaries, Camelot Craft and S.A. Knights, Norfolk  
Dayboat Fleet, Redon, France  
Norfolk Wherry Yacht Charter  
Lake Tyers Day Boats, Australia  
Seaway, yacht hydraulic drives

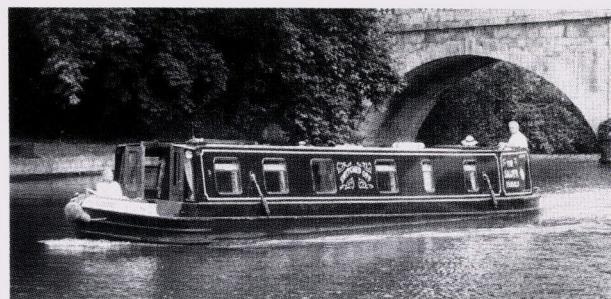
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David Graham, Thames Edwardian launch  
Trip Boats, Scanship, Holland  
First Passenger Solar Boat, Neuchatel, Switzerland  
Columbia University, First in Class, Solar Splash, 1995

Oco-Sachs/Lynch Electric Outboard  
First Solar Crossing of English Channel, 1997  
Reading Marine, Diesel-electric hybrid, 1999  
Rose, Stratford upon Avon, 60 passenger launch, 1999

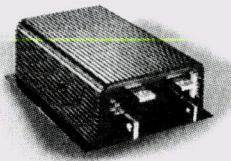
Reading Marine, hybrid narrow boat, 1999



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# EBA CALENDAR

## May

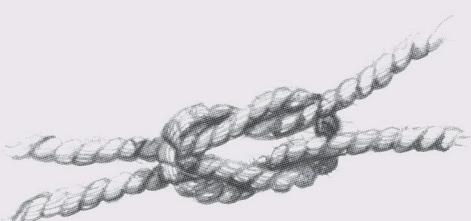
5th – 6th	EBA Event	Electric Boat Show – Hartford Marina, River Great Ouse <i>Boats to try, trade exhibits and the EBA exhibition stand</i>
7th	EBA Event	Members Social Cruise on the River Great Ouse <i>Come and join us – boat not necessary</i>
10 – 13th	EBA Interest	Boat Show, Beale Park, Pangbourne <i>Boats to try, trade exhibits and the EBA exhibition stand</i>

**FOOT & MOUTH CANCELLED DUE TO SEE PAGE 3**

## July

21 – 22nd	EBA Interest	Traditional Boat Rally Fawley Meadow, Henley
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**For further details of the above, or notice of other events, please contact the Secretary**



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Electric Boat Association

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### Editor: **Tony Ellis**

36 Kenilworth Avenue, Reading, Berkshire RG30 3DN  
Fax/Ans: 0118 958 9737  
Pager (24hr): 01426 294720  
e-mail: [bargetony@aol.com](mailto:bargetony@aol.com)

### Chairman: **Jim Keating**

1 Chelsea Court, Bath Road, Taplow, Bucks SL6 0AP  
Tel/Fax: 01628 636500

**Secretary, Membership Secretary: Mrs Barbara Penniall**  
150 Wayside Green, Woodcote, Reading, Berks RG8 0QJ  
Tel: 01491 681449 Fax: 01491 681945  
e-mail: [eboat@mail.com](mailto:eboat@mail.com)

### Advertising Manager, Electric Boat News: **Gill Sauer**

24 Sparrowgrove, Otterbourne, Winchester, Hampshire, SO21 2DL  
Tel: 01962 714017  
e-mail: [gillian\\_sauer@hotmail.com](mailto:gillian_sauer@hotmail.com)

### Treasurer: **Brian Pickess**

22 Temple Mill Island, Bisham, Marlow, Bucks SL7 1SG  
Tel/Fax: 01628 823089

### Technical Officer: **John Hustwick**

33 The Street, Latchingdon, Essex CM3 6JP  
Tel/Fax: 01621 742367  
e-mail: [john@mhustwick.freeserve.co.uk](mailto:john@mhustwick.freeserve.co.uk)

### Vice-Chairman – Trade Members: **Martin Allen**

Lakeland Electric Boat Centre, St Patricks Boat Landing, Glenridding, Penrith Cumbria CA11 0QQ  
Tel: 01768 482393 or 0113 2370399 Fax: 0113 2959025

### Vice Chairman – Users Group: **Ian Rutter**

Riverwood Heights, Gibraltar Lane, Cookham Dean, Berks SL6 9TR  
Tel: 01628 476158  
e-mail: [ian\\_rutter@onetel.net.uk](mailto:ian_rutter@onetel.net.uk)

### Founder Editor: **Kevin Desmond**

**Cover Picture: An interior view of a RA66 solar boat.**  
*Photo: Bernd Kammerer*

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The Electric Boat Association is on the Internet.

The World Wide Web Address is: [www.electric-boat-association.org.uk](http://www.electric-boat-association.org.uk)  
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## Copy Deadlines:

Material to be considered for inclusion in Electric Boat News should be sent to the Editor (preferably as a full e-mail – no attachments) by the following dates:

Summer Friday 1st June 2001      Autumn Friday 7th September 2001  
Winter Friday 7th December 2001      Spring Friday 1st March 2002

## On the current.....

**Anyone who ever thought that electric boating was a cosy backwater, offering escape from the modern world is in for a rude awakening in this issue. Sadly, the knock-on effect of the Foot & Mouth crisis has had a major impact on our ability to promote the interests of electric boating to a wider public – with the cancellation of Boats on Show and our reluctant decision not to proceed with the Electric Boat Show at Hartford Marina.**

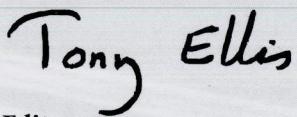
Given these cancellations, it is important that we all make the most of those events that are still available, including the Biennial General meeting on the 28th July. We may also participate in the Traditional Boat Show at Henley in July (although the range of electric boats that can actually attend is restricted by the “Traditional” definition – i.e. no GRP).

The Environment Agency and British Waterways have been naturally cautious in the precautions they have introduced to cope with Foot & Mouth – indeed, in the initial stages of the outbreak, virtually the whole canal system was brought to a halt. Common sense precautions have now been established which have allowed the canals to reopen – further information can be obtained on the BW website: [www.britishwaterways.co.uk](http://www.britishwaterways.co.uk)

Important promotional meetings with Ministers which have been in prospect for several months have also been subject to some uncertainty because of the date of the forthcoming Election – although I understand that a date has now been agreed.

On the international scale, we have the new US Presidency withdrawing from the agreements on efforts to restrict global warming, reached at the Kyoto summit. Our sympathies go out to our friends in the Electric Boat Association of the Americas who work so hard to promote energy saving. Electric boating is supremely efficient in its use of resources and if the number of solar boats continue to grow, they could well provide a net input to the national grid when not in use. Co-incidentally, in this issue we have a three-page article by Theo Schmidt which highlights current solar developments.

In my last editorial I encouraged you all to come and meet us at one or other of our events. Now it's going to be rather difficult to communicate. But remember, the Committee members are only on the end of a phone or e-mail if you have withdrawal symptoms and need to talk volts and amps.



Editor

# COMMITTEE REPORTS

## EXECUTIVE COMMITTEE – January 2001

The Executive Committee met at Upper Thames Sailing Club on 10th January 2001 and the following are selected highlights:

### WEBSITE

Concern was expressed at the continued absence of a functioning website. It was agreed that Barbara Penniall should reinstate the original pages and develop and improve the site as time permitted.

### VISCOUNTESS BURY

John Williams was progressing discussions with the Trustees of the Viscountess Bury Project in order to assess whether there was any way that the Association might be able to help.

### RALLIES IN 2002

Discussions took place on the possibility of events in either Chester or Ullswater in 2002.

### BIENNIAL GENERAL MEETING

The date of the BGM was provisionally set for 21st July at Upper Thames Sailing Club. This was subsequently altered to 28th July and would also involve a social afternoon with cruising on the river.

### SPONSORSHIP OF EB NEWS

The Chairman was pleased to report that a major navigation authority had agreed to make a sponsorship contribution to the production of Electric Boat News.

### MEMBERSHIP REPORT

It was planned that the membership application form would be available on the website in due course. The new membership leaflet would be available shortly and copies would be supplied to business members for issuing with products when selling boats or engines.

Seaboard had resigned following their merger with Scottish & Southern Energy plc. However, the loss of their subscription was equally matched by the new subscription from the Environment Agency.

Two new business members – David Brownjohn and Salter Bros – had joined since the previous meeting.

### ADVERTISING MANAGER

The administration of the advertising on EB News is a self-contained process and it was agreed that in order to relieve the pressure on the Secretary, a new advertising Manager should be sought. An appeal for an advertising manager would be placed in the January edition of EB News.

### ELECTRIC BOAT (FORMERLY SCHOOLS) CHALLENGE

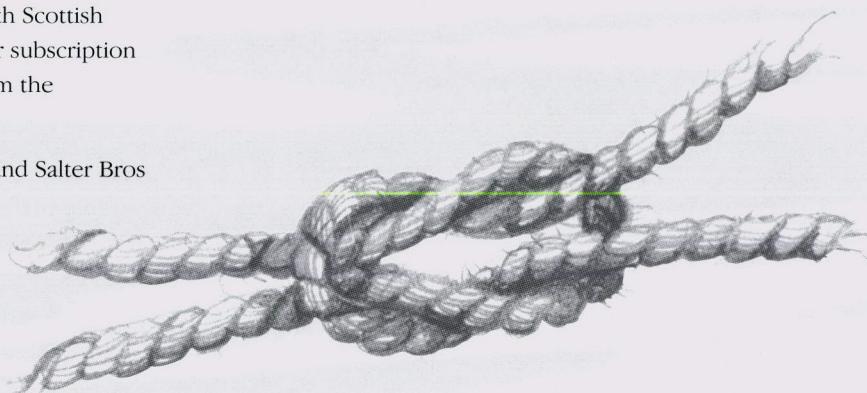
A meeting had been held at the London International Boat Show to discuss the way ahead for the Electric Boat Challenge. It was the view of the Committee that the Challenge was now a viable proposition and once the final details were agreed it would be launched with suitable publicity.

### ELECTRIC BOAT EVENT 2001, HARTFORD MARINA 5 – 6 MAY 2001

The committee received a report on progress with the development of the Electric Boat Event at Hartford Marina on the River Great Ouse. The aim was that it should be a trade show, with free entry to the public. The Monday would be arranged as a 'cruise' day to which EBA members would be invited.

### DATE OF NEXT MEETING

The next meeting will be that of the National Council, held at Electricity Association Millbank on the 11th April (subsequently altered to Monday 23rd April).



# NOTICE BOARD

## ADVERTISING MANAGER

Following our plea for help in the last magazine, Gill Sauer very kindly volunteered to take over responsibility for managing the advertisements in the Electric Boat News. We are delighted to welcome Gill in her role as Advertising Manager. Gill and Tony own the electric narrow boat *Switched Off* featured in the Autumn 1999 edition of Electric Boat News. Details of how you can contact Gill have been added to the list of officers on the inside front cover.

## WEB PAGE

As with all busy people, the moment you relinquish one area of responsibility, the resulting free time is instantly filled with another task. Barbara Penniall has been busy redesigning and rewriting the EBA's web page and the results can be seen on [www.electric-boat-association.org.uk](http://www.electric-boat-association.org.uk). We would, of course, welcome reciprocal links from our business members' sites to the EBA's page.

## STANDING ORDERS

On an administrative note, it would facilitate the recording of membership subscriptions if members would be prepared to take the trouble to set up an annual standing order for future payments. The details you need to pass to your bank are as follow:

The Electric Boat Association a/c 44 273 7084  
Girobank plc, Bootle, Merseyside, GIR OAA  
Sort code: 72-00-00

At the same time, could you please ask the bank to identify the payment with your name on our bank statement. Can we also remind our overseas members that payment should be made to us in either sterling or travellers cheques.

## FOOT & MOUTH AND ITS IMPACT ON EBA ACTIVITIES

As you will read elsewhere on this page, we are restricting or cancelling many of our planned activities this summer in view of the Foot and Mouth Crisis. Boats on Show has been cancelled and we have decided not to proceed with the arrangements for our own electric boat event in Huntingdon at the beginning of May.

However, it may be possible to place more emphasis on the activities accompanying our BGM on the 28th July. Barbara Penniall will keep you fully informed as to any developments in due course. Forthcoming Events on our web page will also be updated throughout the year and we hope members will keep a watchful eye for any changes.

## A NOTE FROM BARBARA

I will miss having the opportunity to meet so many friends during the Shows this summer and would like to thank those members who had already volunteered to help with stand manning.

## THANK YOU

Also from Barbara: I really appreciate the letters and phone calls received in the course of my work for the EBA. In particular, I would like to thank one member who renewed his membership subscription in February in a most novel way – with an accompanying Valentine card. Some days are definitely better than others!

## FOOT & MOUTH RESTRICTIONS – IMPACT ON EBA EVENTS

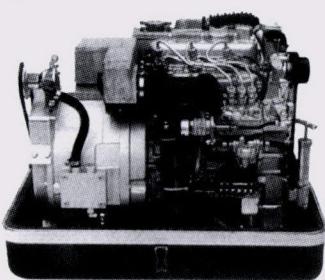
DUE TO THE PROBLEMS PRESENTED BY THE FOOT & MOUTH EPIDEMIC,  
THE BOATS ON SHOW EVENT PLANNED FOR 10TH – 13TH MAY HAS BEEN CANCELLED.

ALSO, GIVEN THAT HARTFORD MARINA IS IN A RURAL LOCATION,  
YOUR COMMITTEE HAS RELUCTANTLY DECIDED TO CANCEL THE ELECTRIC BOAT EVENT  
PLANNED FOR THIS VENUE ON THE 5TH – 7TH MAY



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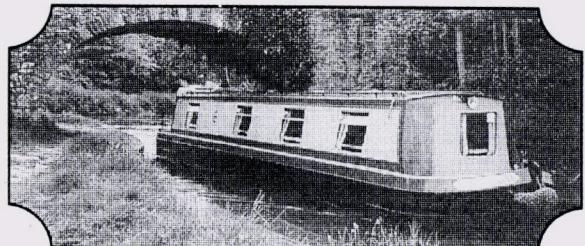
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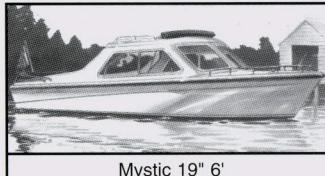
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# FROSTBITE *cruising on the Broads*



*'African Queen'* country – the ice laden channel cut by Ra as she headed for Barton Broad

**Never mind Trafalgar Square – John Hustwick and chums take a New Year's Eve cruise through the Norfolk ice aboard RA, the new solar powered craft owned by the Broads Authority**

The morning of Sunday 31 December 2000 was cold and frosty at Stalham, with the rays of a reluctant winter sun glinting faintly off the layer of ice that had reformed on the water during the night. The exact words escape me now but suffice to say “let's go for a cruise” featured predominantly. So it came to pass that five adventurous souls – some might say mad – wrapped up warmly and went down to the bottom of the garden to where *Ra* was moored, to see if a cruise was possible. *Ra* was held firmly in place by an icy grip but a hire cruiser had already gone down the main channel from Stalham and had cut a swathe through the ice.

So if we could get *Ra* free and to the main channel, a cruise would be possible. Therefore with boat hooks at the ready to break the ice around *Ra*, John and Sandy Williams, Paul and Pat Wagstaffe and yours truly set to. The ice was quite thin and within about five minutes *Ra* was being carefully manoeuvred away from her moorings into the main channel. As the ice was being pushed away it made some eerie scraping sounds that reverberated around the other boats that were locked in its grip. Was it an omen that *Titanic* had been shown on Christmas Day!

Once in the main channel *Ra* was able to proceed at a leisurely pace in the direction of Barton Broad, allowing the crew to view the frozen wastes along the waters edge. There was a distinct lack of human beings and apart from a few fishermen and a lady walking a dog, the world just seemed to belong to us. What a contrast to the continuous procession of boats seen during our *Silent Sensations* cruise in September. Even the wildlife was in short supply and apart from a few ducks braving the icy waters and, I was reliably informed, the sound of a kingfisher on the bank somewhere, there was nothing else to be seen or heard.



*Ra* at the end of John's garden – Left to Right: John Williams, John Hustwick, Sandy Williams and Pat Wagstaffe

After a couple of kilometres we met some canoeists travelling in the opposite direction. They informed us that the ice was much worse ahead, so as we appeared to be in an area where the ice had receded and we had room to go about, we did so. At the same time we stopped for refreshments – coffee and biscuits courtesy of Sandy Williams, other refreshment courtesy of Captain Morgan!



The cruise back to Stalham was uneventful apart from John Williams standing on the fore deck of *Ra*, arms outstretched in a pose that those who have seen *Titanic* will be quite familiar with. Eat your heart out Kate Winslet!! All in all a very enjoyable and different, if rather chilly cruise. Electric boats are not just for summer.

*He shouldn't fall in – but....  
The well dressed John Hustwick  
at the helm of Ra*

## OBITUARY

### Ken Barge

It is with great sadness that we have to report the sudden death of Ken Barge on the 24th February. Only a few days earlier he had been playing tennis and the news came as a great shock to his family and friends, many of whom were members of the Electric Boat Association. He served with distinction throughout the 1939 – 45 war and then followed a career in the burgeoning computer industry, progressing from opening up IBM's European interests, then with ICT and ICL and ultimately as Chief Executive of CSC Computer Sciences UK Ltd.

Living on the Hennerton backwater at Wargrave he acquired a Rupert Latham Frolic 21 in 1987 at the age of 70. This craft gave him yeoman service ever since – without even requiring a new set of batteries. He joined the fledgling EBA and in 1988, with Wargrave residents Doug Cornwall and Peter Butler, brought together the electric boats on their stretch of the river, adorned with floral decorations to take part in the



*Ken Barge (right) presenting the Wargrave Trophy to Robin Bentham at a recent Wargrave Rally  
Photo by Barbara Pennall*

Wargrave Flower Festival. From such modest beginnings grew the Wargrave Rally which has been an annual event ever since – although it now covers a much wider geographical area and this year, for the second time, will be held at Reading.

One of Ken's pleasures was glass engraving and he often gave presents of beautiful pieces of work to his friends. It was characteristic of his generosity that

he engraved a picture of a grebe on a decanter which then became known as the Wargrave trophy, presented annually at the rally to the owner of the best decorated electric boat. This award will always be a fitting tribute to his memory.

Ken was an enthusiastic, energetic and friendly person who together with Kaye, his wife of 60 years, were great supporters of the Association. He will be sadly missed by all EBA members who came into contact with him.

*Edward Hawthorne*

# NEWS FROM HOME & AWAY



## ENVIRONMENT AGENCY

### SUPPORT FROM THE ENVIRONMENT AGENCY

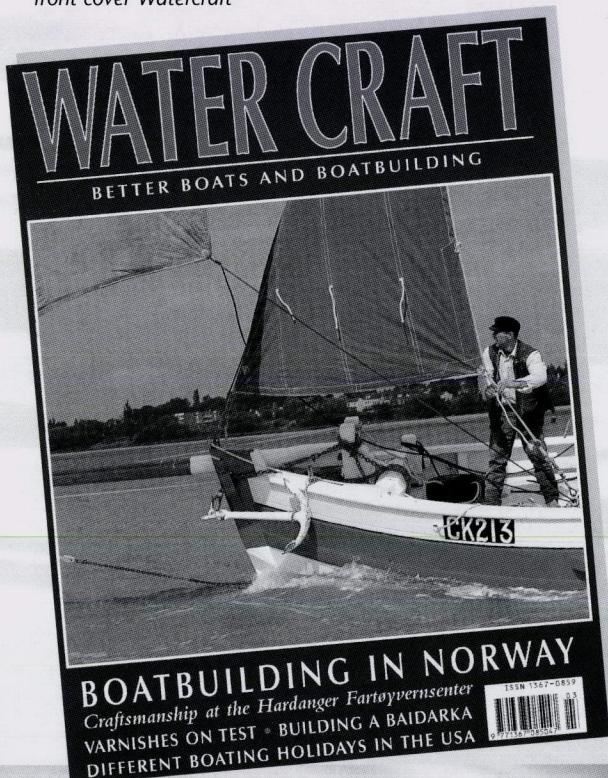
In his recent open letter to Thames river users, John Redmond, Navigation & Recreation Manager for the Environment Agency, gave due recognition to the steady growth of electric powered boats. He confirmed that the Agency now offered nine charging points at overnight locksite moorings the length of the river – and he hoped that it would be possible to encourage others to provide more. John continues “Why encourage electric powered boats? Well, apart from the fact that the boats are quiet, vibration free, emission free, and have low wash making characteristics I really don't know!!! Oh – and we give a 25% reduction on registration charges. Try one and see.”

These positive views from one of our new business members are very encouraging – thank you John.

### KIND WORDS FROM WATERCRAFT MAGAZINE

Without wishing to blow our own trumpet, *Electric Boat News* received a glowing review from Pete Greenfield, editor of *Watercraft* magazine in the March/April Edition. He complimented us on being

front cover *Watercraft*



solACT leaflet

### SOLACT SMART RACE CANBERRA, AUSTRALIA 28 APRIL 2001

Information has been received concerning the Annual solACT (solar and advanced technology boat race) which will be taking place on Lake Burley Griffin, Canberra, Australia on 28 April. This event is part of the Australian Science Festival which is committed to promoting the future of renewable energy. The Australian Science Festival provides full support and information for those interested in participating for the first time. Workshops are available to assist in boat design and team management, and the provision of mentors to help guide the design and development of your solar boat.

*Continued .....*

a well designed and professionally put together and edited product, with the right balance between editorial and advertising. I quote from the essence of his review

“ – but it was Barbara Penniall's various reports on electric boat gatherings which really conveyed the atmosphere not just of the events themselves but of an active and growing international enthusiasm for this appealing method of small boat propulsion.” Such kind words are rare between journalists who either deny the existence of sister magazines, let alone compliment them on their content and style. Perhaps Pete has noticed that the Editor's subscription to *Watercraft* is due for renewal.

### THE UK SOLAR POWER RECORD – HOW LONG WILL IT STAND?

Theo Schmidt writes “I was especially interested in Cedric Lynch's new official solar-powered speed record (EB News, Winter 2000/2001). I have been trying to get solar race organisers interested in pure solar speed records (i.e. no batteries) for many years, but this never seems to interest them. The one exception I know about was one of the very first solar boat events by the Tour de Sol on the Lake of Zug in 1987 or so. Unfortunately, it was raining at the time and I am a proud solar speed record holder with a speed of exactly 1m/s (3.6 km/h or about 2 knots) in the rain! The same boat does 5.4 knots in bright sun and was also used for my near Channel crossing but only achieved about half this average speed on the lightly cloudy day. Some other Swiss boats do about 10 knots solar speed, but nobody was ever interested enough to even record the speeds exactly. Now thanks to Cedric Lynch, the Guiness Book and EB News, maybe there will be some competition for this record!”

Further information on this event can be obtained from the website: [www.sciencefestival.com.au/boat](http://www.sciencefestival.com.au/boat) or by email: scifest@webone.com.au.

#### NEWS FROM OUR FRIENDS IN AMERICA

Ken Matthews, Editor of the Electric Boat Journal (from the Electric Boat Association of the Americas) writes:

"EBAA members and friends of electric boating will be interested in a story in the February issue of the (US) Southern Boating magazine. The story by Jack Owen traces the 125-year history of electric boats and is richly illustrated with photos of modern vessels from Budsin Wood Craft, Duffy and Elco.

The author tells of his first trip in an electrically propelled boat and seems surprised that he can carry on a normal conversation without "an internal combustion engine blasting away." Owen dispels other myths about boating without fossil fuels, and cites the many economies involved when electric motors do the work.

Southern Boating may not be available in the UK, although the publishers say it is distributed internationally. The magazine has a website at [www.southernboating.com](http://www.southernboating.com), but you'll have to subscribe to get the complete story."

#### KYOTO OR BUST?

#### ELECTRIC BOAT JOURNAL, FIRST QUARTER 2001:

Ken's editorial highlights the fact that the Electric Boat Association of the Americas was founded on the idea that the gradual switch to non-fossil fuels is critical to the welfare of the planet, and that the EBAA is one of the many instruments to achieve that goal. We trust that the EBAA supply the White House with a regular copy of their magazine, marked 'Remember Kyoto'.

Further information on the EBAA can be obtained via the website: [www.electricboat.com](http://www.electricboat.com), or e-mail: [info@electricboat.com](mailto:info@electricboat.com)



#### ELECTRIC IDEAS FROM NORWICH

John Williams reports that Norwich City Council has recently conducted tests on a couple of electric cars. David Ellis, Head of Environmental Strategy, tells us of trials on a Peugeot 105 and the Ford Think last December. Staff were encouraged to use the vehicles for their normal movements around the city



NORWICH  
City Council

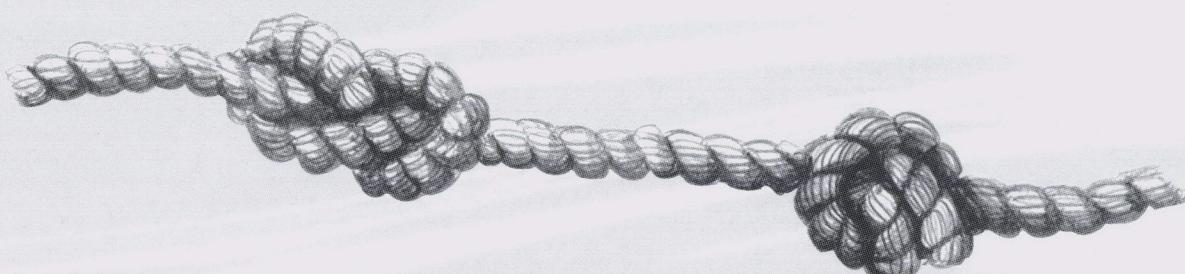
and to record the results. The overall impression was very good with the vehicles both reliable, quiet, easy to charge and to drive – with a recorded cost of 40p for the average 40 mile capacity. Norwich are confident that when they establish a fleet pool of cars, a number of electric vehicles will be included.

Cars today – boats tomorrow?

#### LITTLEHAMPTON SOLAR POWER CONTEST – 28 MAY 2001

Following the success of Cedric Lynch's solar record attempt last year, Councillor Richards of Arun District Council tells us that they are to run a solar power contest on the 28th May.

The event will be held on the Mewsbrook Park Boating Lake on the seafront border between Littlehampton and Rustington. The range of boats able to participate is restricted as the lake is only 18 inches deep. The contest will be to see how many circuits of the lake can be achieved in three hours under direct solar power alone. Further information from Arun District Council's Leisure Department on 01903 737500.





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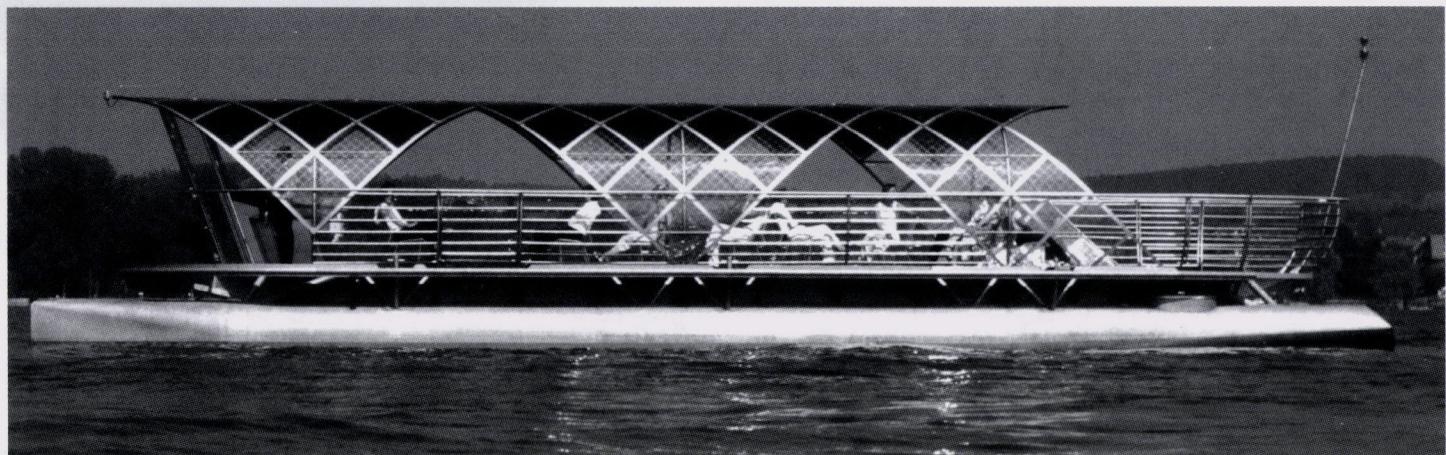
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# SOLAR SHIPS FOR THE NEW MILLEN

Theo Schmidt reports from Switzerland on some of the latest solar developments in his home country and elsewhere



Side view of RA 66 Photo. Bernd Kammerer of Kopf Solardesign

**Solar boats are one of the principal 20th Century innovations in water transport and promise exciting developments in the new Millennium. Already, solar powered craft have grown from a mere novelty to a serious industry and recent years have seen the rapid development of substantial solar craft. Increases in hull size offer economies of scale, with a considerable increase in the area available for solar cells and only a small increase in surface friction.**

When comparing these existing and planned solar projects with conventional diesel powered craft, it is a generally true that the diesel offers a faster ride. However, there are speed limits on the inland waters and, in some cases, the constraints offered by narrow and shallow waters introduce a natural limit. As such, the relative speed offered by the diesel engine is unimportant.

Surprisingly, the costs of solar craft are similar to conventional propulsion and in some cases they are lower. Solar craft use few resources once they have been constructed and can – by linking the panels to the mains when not in use – actually contribute more power than was used in their building.

Because in some areas sunlight is rather more predictable than wind, and can be readily stored by electrochemical means (batteries and hydrogen), solar ships could well become one of the principal means of transportation in the future. Whether sizable ships could be powered by solar means remains to be seen, although cargo ships could be easily adapted to offer huge areas of solar panels.

Several small craft powered by hydrogen fuel cells are already in existence. It should not be

difficult to scale up the operation and operate cargo ships using liquefied hydrogen, produced by installing vast solar plants in the arid regions of the planet.

## THE SWISS LAKES

The first passenger solar boats, *Solifleur* and *Chlorophylle*, were built in 1995 by Mark Wust and his partner, Richard Mesple whose company, MW-Line is based in Yverdon, Switzerland. This model, known as the Aquabus 850, is 8.5m long, with a beam of 2.5m and a light displacement of 1.2 tonnes. They are powered by a 24V Lynch motor and several more have been built since 1995.

The two original Aquabus craft take 12 passengers each and are operated by Pro Natura for natural history cruises on Lake Neuchatel. I recommended and was involved in installing a mains connection on both craft so that they could feed solar energy into the local 230V grid while they were laid up during the winter.

MW-Line subsequently built three more vessels capable of carrying 25 passengers on Lake Geneva. This service known as Aquarel operates from June to the end of September from Ouchy (Lausanne) to Lutry and St Sulpice – a total round trip of 20 kms. The boats run from Wednesday to Sunday and make two to three journeys each day. In 1999 during their first year of operation, these three craft carried 6000 passengers.

MW-line also electrified a 50-passenger boat on Lac de Brenet (Jura) and a traditional 60-passenger boat with classic lines, the *Becassine*. This vessel is 20m in length, 3.3m wide and displaces 20 tonnes. She has been in use since the summer of 2000, operating in Geneva from the Quai du Mont-Blanc, near the Grand Casino. This craft is powered indirectly by shore-based solar panels and her range is given as 90km at a speed of 10 knots.

Elsewhere, Rudolf Minder and Pierre Renaud are developing a solar powered catamaran at a cost of 2m Swiss francs. She will be capable of carrying between 150 and 250 passengers on the Jura Lakes. This craft will be 33m long with 10 tonnes of batteries and 180 square metres of solar panels. A cruising speed of up to 15km/h is forecast.

## THE PO VALLEY IN ITALY

Similar boats to the Aquarel – the Aquabus 1050 – are based in Milan, and operated by the Associazione Amici dei Navigli. The Association is dedicated to re-opening the complete waterway from Lago Maggiore to the Adriatic at Venice. Their solar powered boats operate from Milano Darsena – about 1.5km south west of the city centre and cruise 15km to Gaggiano. Outside the winter season, the boats runs from Tuesday to Friday each evening and mornings on Saturday and Sunday. These vessels are 10.5m long and 2.5m wide, with a light displacement of 2.3 tonnes. They are powered by a 48V Lynch motor.

All of these craft produce more energy than they consume, although in particularly cloudy weather, their batteries are augmented by supplies provided by stationary shore-based solar panels.

## AUSTRIA

The traditional boatyard, SUEK GmbH, near Vienna launched their first solar catamaran *Sonnenschien* in 1998. This craft can carry up to 58 passengers and was originally used for excursions on the River Danube. *Sonnenschien* was eventually sold to the Saarbruckerner Personenschiff company in Germany. She is 15m long, 3.9m wide, displaces 10 tonnes and has two 6kW motors with a 5kW solar generator.



*Interior view of Alster Sonne, a RA82 – the largest solar vessel in the world until the development of the Australian Solar Sailor in 2000*

*Photo. Bernd Kammerer*

*The brochure for the Aquarel solar ferry, based at Lausanne*



The largest solar ship to date is the 1.3m Deutschmark 27m long RA82 Solarshuttle *Alster Sonne*. She is used for tourism trips on the River Alster near Hamburg. This 40-tonne ship for 100 passengers has seating for 84 and also feeds electricity into the local mains when she is not in use.

Kopf has sold a number of the smaller RA models, including the RA29 to the Broads Authority (see *Electric Boat News*, Autumn 2000).

*Cont on page 19*



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[www.navandgen.com](http://www.navandgen.com)

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### Information sheets from the Electric Boat Association

- 1. PRODUCT GUIDE & EBA TRADE MEMBERS**  
(free upon request)
- 2. SOLAR POWER** by Solar Energy Alliance
- 3. ELECTRIFYING YOUR BOAT** by Hawthorne & Wagstaffe
- 4. HULL DESIGN FOR ELECTRIC BOATS**  
by Andrew N Wolstenholme
- 5. LEAD ACID BATTERIES - OPERATION & MAINTENANCE**  
by CMP Batteries
- 6. HIGH SPEED ELECTRIC BOATS** by Lorne Campbell
- 7. HYBRID POWER** by John Hustwick

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# TRADE NEWS



The Duffy/Herreshoff 30

## THE DUFFY/HERREHOFF 30

The USA based Duffy Electric Boat Company announces the production of the Duffy/Herreshoff 30 – a luxurious day cruiser that (in the USA) would be perfectly at home on the Chesapeake, the Intercoastal waterway or harbour cruising on the West Coast (substitute the Thames, the Broads or Poole Harbour). Duffy say that if you want to ride in 19th century luxury with 21st century technology, this is the boat. The lines are truly classic and her hull is supremely efficient.

Two open cockpits are accentuated with an enclosable area that can be heated (or air-conditioned) in less than perfect weather. An electrically operated pop-top can be slid open for even more fresh air and sunshine when the day is fine. The joinery and upholstery are of a very high quality but elegantly understated in appearance.

The galley is equipped with hot and cold water, sink, refrigerator and microwave so you can look after the inner man while taking in the passing scene. There is a temperature controlled wine locker, while a variety of handcrafted teak lockers hold the miscellaneous supplies needed for a gentle day on the water. The enclosed head has a vacu-flush toilet and 30 gallon holding tank.

## TECHNICAL INFORMATION

Hull: 30 feet grp construction

Power system: Duffy Drive with a top speed of 8 knots, cruising speed of 5.5 knots and a charged running time of up to 15 hours.

Power rating: 20-hp w/Whisper Drive, 96 volts

## THE DUFFY/HERREHOFF PARTNERSHIP

It was a casual meeting between Duffy Duffield and Halsey Herreshoff during the 1988 America's Cup campaign in Bristol Rhode Island. While Dennis Conner fought the Kiwi's on that breezy day, Duffy and Halsey discussed bringing back a classic Herreshoff design with electric power. "I had their 30' steam launch in mind... it was just a perfect hull design for our electric power system," Duffy remembers. Halsey, grandson of Nathaniel Herreshoff and Director of the Herreshoff Museum, felt it would be a wonderful tribute to the timeless designs of the Herreshoff family. "Nat and John would be proud to see the rebirth of their Launch, and thoroughly impressed with the environmental benefits of electric power," Halsey noted.

Production of this classic craft will be limited to between 8 and 12 boats per year.

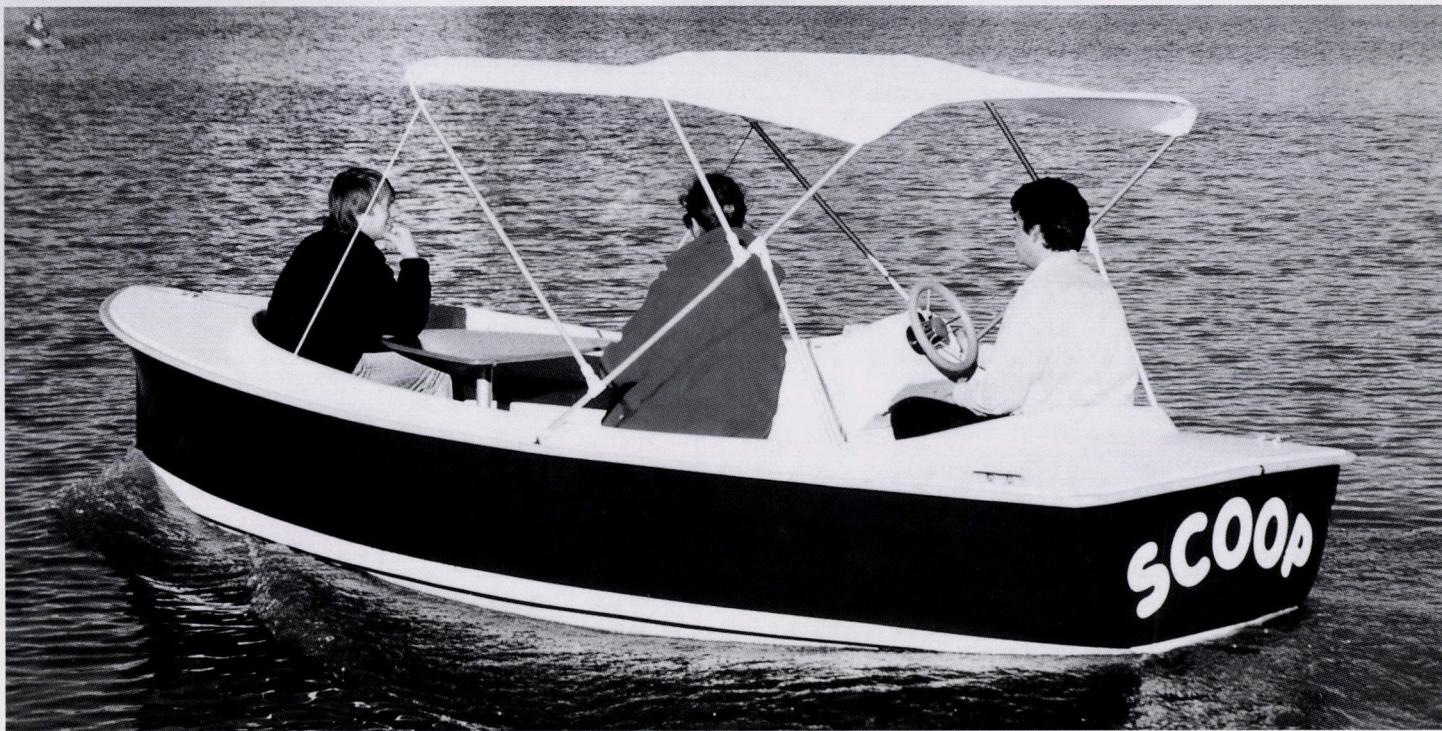
Further information: [www.duffyboats.com](http://www.duffyboats.com)



## RUBAN BLEU. – COMING SOON TO A LAKE OR RIVER NEAR YOU!

With over 700 boats sold since they started in 1992, Ruban Bleu is almost certainly the largest volume builder of electric boats in Europe. Jerome Croyère, who runs the Nantes-based company, chose the name with a tongue-in-cheek nod to the famous Blue Riband Trophy – the prize for the fastest Transatlantic liner, and another to the Ruban Bleu clockwork toy boats.

Cont on page 14



Scoop – a 4.6m, 7 seater

The company produce a range of simple open launches – the 3.6m Ruban Bleu; a 4-seater, of which over 500 have been sold – the As (Ace) 3.8m /5 seater – the Scoop, 4.6m/7 seater and the Zelec, 5.5m 8 seater. They also build the Voguelec – a catamaran passenger ferry /tripper boat (electric, of course) in various sizes up to 8.5m/30 passengers.

Of the launches, all but the Zelec are powered by Minn Kota outboard drive units run from Ruban Bleu's own electronic speed control units, mounted through the hull, with wheel steering. The Zelec has an inboard permanent magnet motor installation with conventional shaft drive and rudder.

All the boats have sufficient battery capacity for 7-10 hrs at full speed, which varies from 3.2 Knots for the little 3.6m 4 seater, to 5.5 Knots for the 5.5m Zelec. Chargers and batteries are included with all models.

Optional extras include sun canopies and trailers, with cushions and picnic tables available for the larger boats. All the boats are built to meet the CE Category D standard.

With their eye on the day hire market, Ruban Bleu have created a range of small launches that need little

maintenance and are very economical. All the boats are fully self-draining, which makes them easy to keep clean, and saves having covers. Ruban Bleu run four hire bases and have now supplied over 100 similar businesses.

New EBA Member David Cartwright, who is the UK Sole Importer has teamed up with John Williams – who will handle the private sales, leaving David to deal with the importing and trade sales.

Further information: [www.dcboat.com](http://www.dcboat.com) or [www.rubanbleu.co.uk](http://www.rubanbleu.co.uk) – or contact:

*David Cartwright, Boatbuilder. Church Farm Cottages, Linstead Magna Halesworth, Suffolk IP19 0QN  
Tel/Fax 01986 785322  
email dcboat@freeuk.com*

*or John Williams Boats. The Staithe, Stalham, Norfolk NR12 9DA  
Tel 01692 580953 Fax 01962 582132  
email johnwboats@aol.com*

The Mystic 19ft 6ins



MYSTIC 19FT  
6INS  
FROM SALTER  
BROS

In our review of the London International Boat Show (Electric Boat News, Winter 2000/2001) we were unable to include an illustration of the *Mystic* 19ft 6ins which was



Hydra, the floating testbed for the new Etaing fuel cell system

on show from new EBA Business members, Salter Bros Ltd/IPG marine. We now make up for this omission.

Further information:

Mystic Boatbuilders (IPG Marine)  
01689 321002

#### HYDRA FROM ETAING

Information has been received from the Bonn-based company, Etaing Hydrogen Energy-Systems. Etaing have produced a fuel cell system, known as EUROP 21, which works by electrochemical reaction – known as cold combustion. By combining hydrogen and oxygen an electric current is generated.

To demonstrate the efficiency of the EUROP 21 power unit, Etaing have built the *Hydra*, a trip boat capable of carrying up to 22 passengers. *Hydra* has shallow draught and a headroom of 1.35 m, enabling her to pass beneath a range of low bridges in Bonn. Special attention has been given to the design of the hull to reduce wash so as to avoid damage to river banks or to areas of nature conservation interest.

#### TECHNICAL INFORMATION

Europ 21 fuel cell – technical specification

Type of cell: Alcaline fuel cell (AFC)

Net output: 5kW

System size: 1m<sup>3</sup>

Voltage levels: 12,24 and 48 volts DC optional 230 volts AC

System control: fully automated

Hydrogen storage: metal hydride;  
capacity 32 m<sup>3</sup> with a size of 1/4m<sup>3</sup>

Further information:

website [www.etaing.com](http://www.etaing.com)  
or e-mail: [kontakt@etaing.com](mailto:kontakt@etaing.com)

# TECHNICAL NOTES

John Hustwick reports

## BSS REVIEW TEAM

W SCHLEGEL, BRITISH WATERWAYS,  
A CRILLY ENVIRONMENT AGENCY

T. HIRST AND D. MORGAN OF THE  
INLAND WATERWAYS AMENITY ADVISORY COUNCIL

INDEPENDENT OBSERVER:  
D SMITH (ON BEHALF OF THOSE USER GROUPS  
WHO PARTICIPATE IN THE  
NATIONAL INLAND NAVIGATION FORUM)



### BOAT SAFETY SCHEME REVIEW - THE STORY SO FAR!

In September 2000 we were invited by the BSS Review Team – along with other user groups and private individuals – to write a summary of our views on the current Boat Safety Scheme. Some might recall that Jim Keating in his article in the Summer 2000

edition of the EBN, had asked for constructive comments from those who had experience of the BSS, good or bad. That got a rather poor response, which was a little surprising and rather disappointing. Based on our general experience of electric boating and the impression we had got about the Scheme, we produced a short (2 page) submission which was duly sent to the Review Team.

In October 2000 we were invited to provide oral evidence in a face to face meeting with the Review Team to be held in Birmingham in November.

Due to work commitments, neither Jim Keating or myself could attend but Emrys Barrell volunteered to go on our behalf. The meeting gave the Electric Boat Association the opportunity to provide more details about our original submission. It also enabled us to expand on some of the more specific points about individual items. We emphasised the fact that electric boats were much less of a risk in overall terms than those with petrol or diesel engines and that those concerned with electric boats (particularly those who build them) should have an input to new standards.

Consistency between examiners was another key issue – with one examiner failing a boat where another had passed an identical craft. Following the meeting we were sent a transcript of what had been discussed. As a matter of interest, our short submission was exactly what the Review Team were looking for – that is, without too much specific detail. Apparently some groups had submitted documents in excess of 20 pages, going into minute detail about every single point of concern.

In January 2001 a press release provided an “Interim Statement” by the Review Team which had been prepared in December 2000. This interim statement was welcomed by the navigation authorities who expressed their gratitude for the work done by the Review Team. A further press release, also in January 2001, supplied the interim recommendations. There were five initial recommendations as follows:

1. The only mandatory requirements should be those justified as either essential safety or environmental requirements of the navigation authorities.
2. Desirable best practice should be encouraged, the Scheme should do more to publicise, encourage and promote good practice and communicate risk. Individual boat owners and users should play a significant part in safety improvements.
3. There should be a presumption against the retrospective introduction of higher standards to existing craft unless primary legislation or other safety regulations require them.
4. The navigation authorities should reaffirm the Scheme’s policy to harmonise with the Recreational Craft Directive, a simpler Scheme will facilitate this process.
5. There should be a transparent technical appeals process.

Until the full report is received and adopted, the current Scheme will remain in force, except for the interim exemption arrangements.

A list of fail points which qualify for time-limited exemptions was received at the beginning of February and the points which relate directly to electric boats are as follows:

Section 4.5 Master Switch: Not operable from steering position

Section 4.7 Charging Panel: Charging warning light not fitted

Section 4.8 Battery Exhaust: ventilation fan not automatically switched

If any of these items are picked up during an inspection as a failure, you will still be able to apply for a BW or EA licence during the exemption period, which is due to last about six months but will likely end before August 2001.

During this period, user groups and the boating industry are going to be asked for their views on this list of mandatory and advisory points. Note that there is a very large list for diesel and petrol engine boats. When the Review Team have reached agreement

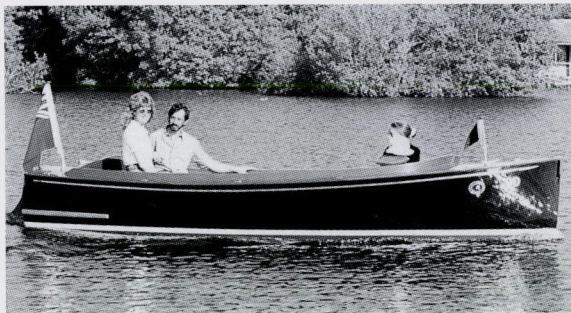
*Cont on page 18*



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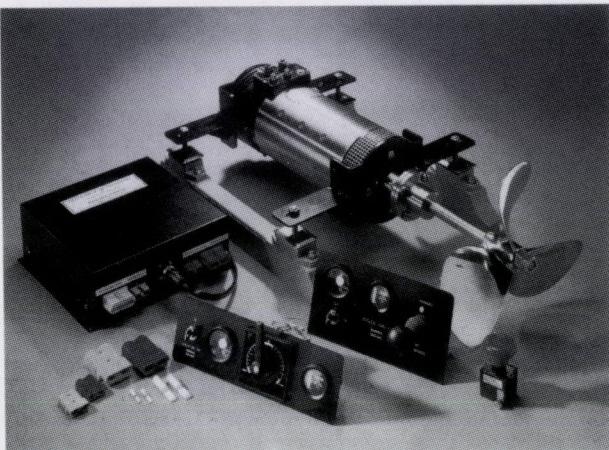
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# TECHNICAL NOTES cont.

with the various groups, this will form the basis for their final recommendations to the navigation authorities for the future of the BSS examination.

## VIEW OF MEMBERS

At this point I would like to seek views from EBA members concerning any other specific items they think should be advisory instead of mandatory. We may still be able to add to those items already mentioned. However, this will have to be done quickly because there will not be much time left to influence any decisions by the Review Team. They were due to begin this process in February 2001. One point which has generated a number of comments is the fixing of batteries so they cannot move in a vertical direction. For instance, if your boat is only ever going to be used on a canal, or on calm waters, it is unlikely to need the batteries holding down. However, if you trail a boat as I do, then holding batteries down is sensible, especially with the current state of the roads after all the flooding.

Finally, regarding items becoming advisory instead of mandatory. Some owners may feel annoyed that they have spent money in the past on having additional work done in order to get a BSS certificate, whereas now that same work may not be necessary. The extent of this can only be judged after the whole review has been completed and the revised BSS has been implemented.

We were promised that the full report would be completed in February 2001 but at the time of writing this article (1st. March) it has not appeared. I will give another update in the next issue of EBN and I hope to report that the EBA's contribution has helped towards an improved BSS, particularly for electric boats.

## FOOTNOTE:

### *The final report of the Boat Safety Review Team*

The 59-page final report of the BSS Review Team was received half way through March and we haven't had time to carry out a detailed assessment.

The review team and representatives of British Waterways and the Environment Agency will be attending a meeting with the broad range of waterway user groups who participate in the National Inland Navigation Forum, which is being held at Stoke Bruerne on the 8th April. The Editor will be attending this important meeting (wearing his RYA hat) so we will have the opportunity to get hold of some useful feedback.

It is good to record that the Review Team placed the EBA among the list of Professional Technical Organisations who had made submissions to the review process.

## Concluding comments

*While it is too early to comment in detail on the technical aspects of the final report, members may be interested in the following extracts from section 7 of the report 'Concluding comments':*

*'The events leading up to the commissioning of this Review demonstrate a lack of support and acceptance of the Scheme by the various bodies representing the user and a resulting loss of credibility. This is mainly supported by the considerable response to the request for those bodies and licence holders to provide evidence to the Review Team, much of which detailed personal experiences demonstrating dissatisfaction.'*

*'Since the aim of the scheme is to reduce risk, it would seem essential to have an understanding of the level of accidents and the cause..... This would then better inform future input to standard-making bodies and better inform those affected.'*

*'Regulation and enforcement should be the minimum required. Other regulatory processes do affect the users of waterways and, in some areas, overlap. The Navigation Authorities should work with all enforcement agencies to avoid duplication and to ensure that the authority taking the lead is the most competent to do so.'*





The 58-passenger Sonnenschein

## SOLAR SHIPS FOR THE NEW MILLENNIUM CONT...

### SOLAR DEVELOPMENTS IN AUSTRALIA

Robert Dane and his team developed the Solar Sailor which was introduced for use in Sydney Harbour during 2000. This vessel is the largest solar craft to use a combination of solar and wind power. Some of its solar cells are mounted on adjustable wing sails and the craft can use wind, sun or both combined.

### Contacts:

#### AUSTRALIA

*Solar Sailor Pty Ltd* PO Box 336 Ulladulla NSW 2539 Australia.

#### GERMANY

*Kopf Solar design GmbH & Co KG*,  
Stutzenstrasse 6, D-72172 Sulz-Bergfelden

#### ITALY:

*Associazione Amici dei Navigli*, Via Rasori 20. I-20145,  
Milano – contact Fabia Molara,  
Tel: 0347 7236610

#### SWITZERLAND:

*Pro Natura Champ-Pittet*, CH-1400, Yverdon  
Tel: 024 426 9341

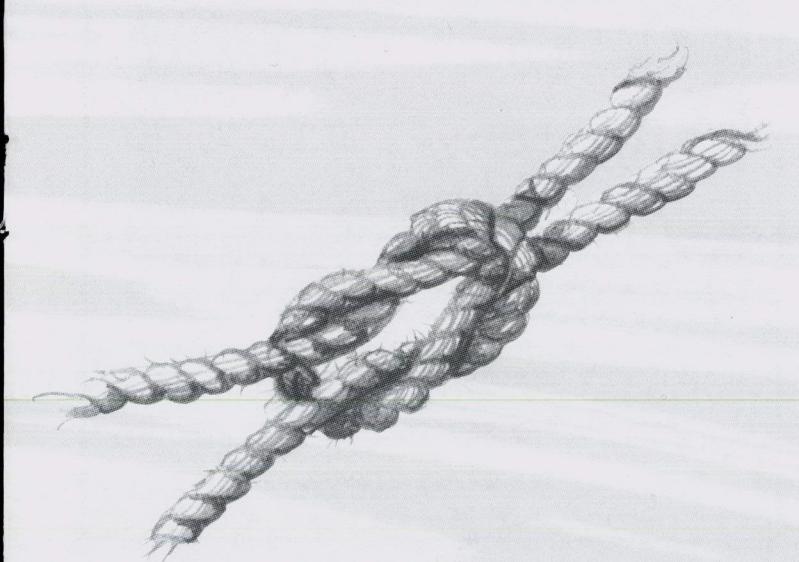
*Lausanne Tourism(Aquarel)*

Tel: 021 613 7373

Private bookings: 079 286 3768

*MW-Line*, 25 Route de Lausanne, CH-1400 Yverdon.  
Tel: 024 426 3387.

*Becassine*, Bookings Tel: 022 732 2944



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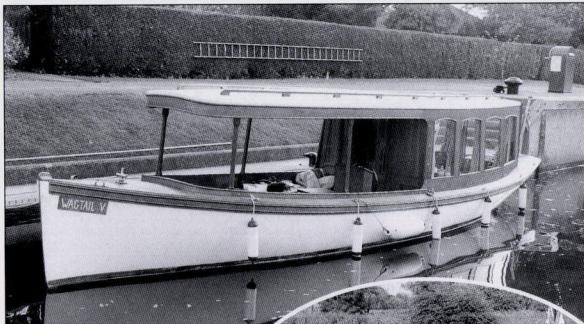
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