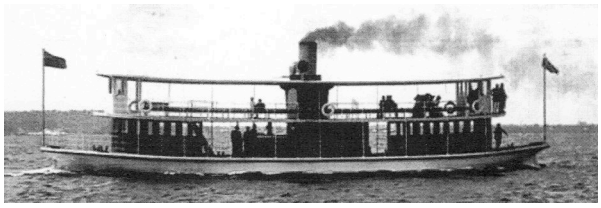
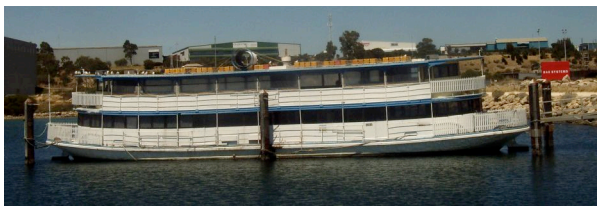
AMATEUR BOAT BUILDERS' ASSOCIATION

Jan/Feb 2010





The SS Perth, in her heyday (about 1914) ……..and today. See Toolbox report later

THE SAFETY ASPECT

On Wednesday, Nov 25 we were addressed by David Lugg from the Dept of Transport on the subject of safety registrations for recreational boats. Unfortunately, the attendance wasn't one of our best, but those of us who came all learned something useful.

As David pointed out, Australia had no regulations governing registration and safety until November, 2006. Somewhat earlier both Europe and the US had regulations on the subject, mainly stipulating design parameters and so on. Then we had the National Assessment into Boating Fatalities in Australia – 1999 to 2004. It found we were losing around 40 people a year to drowning and the number was rising. Some of the factors were overpowering of some boats, alcohol, no lifejackets and many involved older people. A remarkable number involved smaller boats, such as dinghies and this probably led to the adoption of 6m loa as the cut-off point for flotation testing.

The Australian Builders Plate (ABP) system eventually devised for Australia, unlike the US and European models, specifies outcomes rather than inputs and is managed by the Dept of Commerce, rather than the Dept of Transport! It falls under the Consumer Protection Division, under the Fair Trading Act. But the DoT, from which David hails, still has much to do with the implementation. It applies to all new boats completed after November 2006 and has many exemptions including "aquatic toys" (aren't they all?), vessels of less than 2kw power, kayaks and many others. I can't see the need to exempt kayaks separately – the best Olympian couldn't muster 2kw! It does not apply to restorations of older boats. As Robert Ayliffe wrote in AABB, more than a year ago, a restored vintage speedboat gets off scot-free; a modern replica does not.

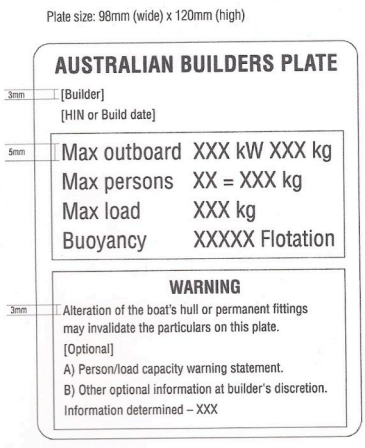


Figure 1 — Sample ABP template for boats less than 6 metres in length designed to be powered by an outboard engine

The ABP (samples above and below) has to be firmly attached to the boat with accurate information supplied by a qualified person, presumably in a signed statement. The person should be the builder or a boat builder or a suitably trained person. This may sound a bit flippant, but the signatory will remain legally liable for any faults evermore! ABPs are available from the Australian Marine Industry Federation, with more information on the website: www.nmsc.gov.au

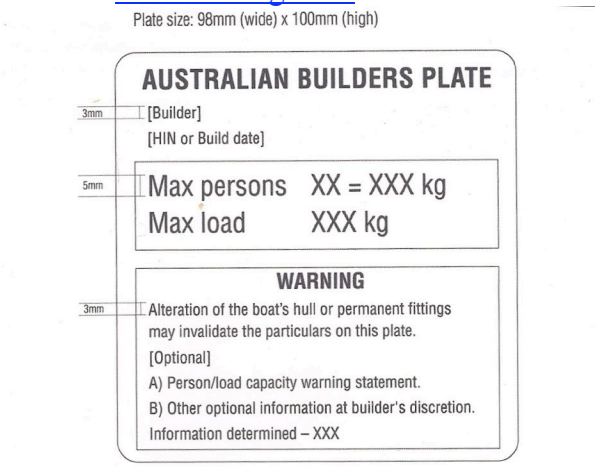


Figure 6 — Sample ABP template for boats 6 metres or more in length, not designed to be powered by an outboard engine

Of most interest was the detail involving flotation testing which, as outlined earlier, is only applicable for boats up to six metres. As was pointed out on the night, if building a boat close to 6m it might be easiest to stretch it to, say, 6.1m to avoid the test. Under 6m, however, one is almost certainly going to include buoyancy foam in the construction. Air-filled cavities are not counted because they can be breeched, and the right (polyethelene) foam is expensive and needs to be budgeted for. Foam is best placed high up, not low down, in the hull for stability after flooding. There are two sorts of flotation tests, one theoretical and one practical. The theoretical one is based on a formula which David gave to us but which I failed to copy down accurately but he can be Emailed at david.lugg@transport.wa.gov.au The practical test is what it says. The boat has to be flooded and float level, supporting occupants. Ballast weights can substitute for delicate machinery such as motors, etc. It is assumed that the practical test will enhance resale value, incidentally. David assured us that many boats have been tested in practice since 2006.

So there you have it. In many ways it amounts only to a Statutory Declaration but with significant legal responsibilities attached. Because of this, if it were me, I think I'd prefer to have a boat assessed by a third ("qualified") person as in a marine surveyor. I don't like the thought of being responsible for a second or third owner's demise, twenty years down the track! Samples of some ABPs follow. Many thanks for the explanation, David. It helped fill in many gaps.

BUILDING "EMMA"

I have been asked by President Paul to write something about my biggest ever boat-building project, about a third of a century ago. I recently re-discovered her supporting a badly frayed tarpaulin at the Maylands Slipway. She also has a lot of ply missing from one bottom panel.

In 1976, following a year off from teaching with long service leave, we migrated to Geraldton, largely because it looked like a good place to go sailing. I had meant to sail Moths, as before, but the previously strong Geraldton class had died in 1975 and no cruiser owners were keen to have me skipper their boats, so I determined to build my own. I favoured a Roberts 25, in fibreglass over a male mould, but was advised by GYC members that (a) amateur built fibreglass has no resale value because the buyer can't determine the quality of the lay up, whereas amateur built timber will at least recover the cost of materials, and (b) to build a Van der Stadt design because they haven't designed a bad one yet (there were four in the GYC fleet at the time). I eventually chose a 24' Quarter Tonner, mast-head rigged, called a "Zeeton". Like many VdS designs, she was multi-chine in plywood.

Building in Geraldton turned out to be fortunate. It was only a quick drive down to the waterfront for boat chandlers, the Geraldton Building and Plumbing Company and so on and Perth could be reached by telephone and letter and the purchases sent up, at that time, by rail, although that required advance planning by a couple of weeks each time. And then there was the marvellous weather. I was building outside, through the winter, and I think I lost only one weekend to rain!

At first we were living in a government house in Rangeway so I set up the building jig, digging the legs into the sand, beside the house, levelling it with strings, spirit levels and plumb bobs. The plywood was purchased from Gibbs Bright in Perth, mainly 12mm for the frames and bulkheads, 9mm for the skin. We still have a kitchen cutting board from one of the 9mm offcuts. Anyway, the frames were set up on the jig using the above-mentioned tools and chines (all six of them) and sheer stringers fitted. This was not without its dramas. I was using an early, locally made epoxy called "Jefkem" for the necessary scarf joints which were at the point of maximum beam and bend. The timber was an island one called kapur, very long grained and a bit oily. Anyway, the Jefkem didn't stick to it very well and when I bent the sheers around, the joints just exploded. So the kapur came off to be replaced with nyatoh, glued with old-fashioned Resorcinol, which my own workshop tests showed to be far superior. The kapur later became a chook house.

Fairing the frame and skinning it had me a little worried; I'd only built 11foot Moths before and wasn't sure what level of precision was necessary when fairing the frames in. But there were still a few professional wooden builders around at that time and I was able to hire one of them for assistance. Besides, I needed at least one extra pair of hands to manage the 24' scarffed sheets of ply. These had been joined for me by Gibbs Bright at purchase from 8' sheets, but it wasn't a very good job. Fortunately I was going to sheath the yacht in fibreglass at a later stage so we went ahead.

The fairing went well and it was definitely a help to have a pro for assistance. When it came to skinning the boat it became more difficult. The plans called for the adjacent panels to meet at mitre joints near the bow and to convert to overlapping ones further along. I felt that the angles at the chines were so broad that 9mm, overlapped, would give joints of up to about double that and so decided to continue the mitre joints down the whole length of the hull, although this would lead to spiling and shaping both sides of each 24' panel, a task so tedious I think I could have built a round bilge hull quicker.

The skin was glued on with Jefkem (I had plenty) and fastened with barbed Monel nails, pre-drilled, at 2" centres, as opposed to the building instructions to use screws every 3". The painful job was dollying up on the inside against the hammering outside. Even wearing headphones as protection the noise in that soundbox was extreme. At this stage I made a template for the keel bolt holes out of thin ply. This was used first to drill the hull for the ½" keel studs, and somewhat later for the Perth engineers to tap in the studs in the finished cast iron keel. I also made a pattern for the keel, hollow and assembled like an aircraft wing. It was a bit tedious but I later found out from the foundry that I'd saved about $400 by making my own pattern, whereas the cost of actually casting it was only $250. We were up to the May school holidays by this stage and so we went off on a short camping trip while a contractor sheathed the hull in fibreglass using polyester resin as epoxy was rare then, and expensive.

Just to complicate matters, we'd bought a house of our own by this time and needed to shift. Fortunately the boat was at the right stage for coming off the jig and this was done with a crane using rolling slings. The operator simply hoisted the hull, complete with the whole jig, out of the sand and rolled it in the process. It was trucked to the new house and installed at the end of a narrow driveway using the same crane to lift it over the house. The jig was then removed from the shell, piecemeal.

Fitting out is all a bit of a blur but it actually took longer than the process so far described.

Some deck beams had to be added, the inside painted, (a real pain), the cockpit installed and the deck and cabin added. It all took time and I wanted to be afloat by the start of the sailing season! I also injured myself falling through the forward hatch one night causing my left knee and leg to stiffen up something painful for a while – an extra problem. I had been writing to Van der Stadt with queries about minor modifications, to which they replied, in English, within two weeks each time, and also sending them some photos. At one stage, while offering to pay for these, they dropped the comment: "We think you are going very well with your Zeeton. You will probably be the first one in the world finished." And I had thought I was building an established design!

Somewhere around this time I delivered the keel pattern to Vaughan's Castings in Hamilton Hill and they poured it in cast iron (800 kg), Dimet coated it and had the studs fitted before railing it back to me. When doing the rigging I managed to crew one race on an MB24 (an almost identical boat) at that year's Cockburn Sound Regatta to find out what mast section was best and ended up investing in a Sheerline S150, together with an appropriate boom and spinnaker pole. The VW Kombi we had must have looked pretty comical roof-topping thirty feet of mast section from the railway station. This was then stepped temporarily on the hull so that shroud lengths could be measured before splicing up with fittings at a firm on the waterfront. I also made up all the major deck hardware such as the pulpit, etc, first getting stainless tube bent at the Plumbing Company, cutting to length back at the boat, before getting welding done back at the plumbers'.

The sails were made by one, Vin Cooper, a pharmacist and part-time sailmaker in Applecross, recommended by someone in the yacht club. Only through Vin could I afford a full wardrobe of three headsails, a main and two spinnakers. Likewise, I cut costs on winches, fitting single speed Barlow 20s rather than anything more powerful – they turned out to be adequate. My wife, Margo then made up seat cushions for the interior (she'd earlier helped with dollying up while hammering and with painting – it helped to have a good family, a good yacht club and good access to small businesses). Since I couldn't afford an 8hp inboard diesel engine I acquired an old 5hp, long shaft Seagull which never started when I wanted it to, but since I was to operate off a mooring rather than a pen, it didn't matter that much.

Mating the hull to the keel was a heart-in-mouth affair. I'd had the keel delivered direct to the waterfront near the fishing boat harbour and it was supported in a vertical frame I made. The hull was then craned out over the house, trucked to the water and craned down over the keel. Would the studs line up with their holes? Nail-biting time. I'd had the foresight earlier to enlarge the hull holes from their bare ½" to 9/16" and that, with a bit of jiggling and wriggling, was enough. It all fitted with a mastic interface, and the keel bolt nuts were then applied at 50ft/lbs of torque.

Following a survey for insurance, launch day finally arrived, about late January as I recall, halfway through the sailing season, rather than at the beginning but the whole building time was still only eleven months (I don't think I slept much in that period). "Emma Chissit" was craned into the water from the fisherman's wharf, the mast stepped, sheets and sails rigged before trying our first sail. And sail she did, very well. She was dry, comfortable and fast. E G Van der Stadt and Partners had designed another good one.

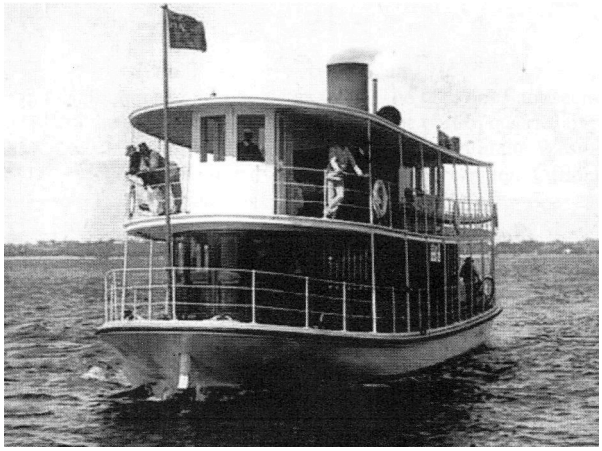
"Emma Chissitt" with one reef on her launch day

Footnote: In '86 we visited the VdS offices in Zaandam, Holland, and found they were still using pictures of "Emma" to illustrate their catalogue of designs.

A GRAND OLD DAME

On Saturday, 12th December we were able to visit the MV Perth at her current resting place at Henderson. We were hosted by the current owner, Mike Beanland of the Perth Boat School, a group which qualifies people for skippers certificates, etc. Mike plans to restore the old girl as much as possible but it's a huge task and he'll welcome any assistance he can get.

Since some peoples' knowledge of the Perth is a little vague, we'll start from scratch. She measures 30.4m loa, with a beam of 6.1m and draft of 2.4m. She's double-ended (two counter sterns, actually) with a rudder and single propeller at each end. A properly designed counter stern is just as stream-lined underwater as a bow, of course. Having two sterns makes her the same as the somewhat smaller "Duchess" and quite different from the famous Sydney ferries, North and South Steyne, which each had two bows and so must have been able to handle much rougher water. Indeed, I think South Steyne has made it from Sydney to Hobart in recent years. Our two double enders are strictly riverboats. In either case such ferries can operate in either direction by having both propellers on a long, single shaft and locking off the forward rudder into a central position. Originally this isolation and locking was achieved with a mechanical mechanism but this was later replaced with an hydraulic one. The only trouble is that Mike is still trying to understand this hydraulic system. The two propellers turn at the same speed, in the same direction, but the one at the forward end is effectively operating in astern mode, which means only about 25% efficiency. Double-enders which need no room to turn or manoeuvre at all were ideal for the shuttle runs between Barrack St and either Mends St or Coode St jetties in South Perth. I guess bow thrusters have made them obsolete.



The Perth has two complete decks above the waterline (the Duchess has only one) and these were originally open and probably breezy especially in summer. Now they're both closed in and perhaps more comfortable but visibility is reduced a little and windage greatly increased.

She was built at A E Brown's yard at North Fremantle in 1913 and commissioned in the following year. Until 1970 she was powered by a largish double expansion steam engine, currently exhibited in the MM. The boiler was off to one side of the engine, probably to avoid the centre-line running prop shaft.
The engine shows two nameplates – Denny Bros, Perth and McKie and Baxter, Glasgow. Now Denny Bros' parent company was on the Clyde near Glasgow, where they built large ships, and I presume they had a Perth agency which handled supply of the engine. The Denny name is also allied with A E Brown as the boat builder on an engraved nameplate on the vessel. McKie and Baxter also supplied the engine room telegraph and no doubt much other hardware besides. In 1970 the steam plant was removed and replaced with a Kelvin T6 diesel of 180 hp, which is still in her. A ballast tank replaced the off-centre boiler. Indeed, she remained in survey until about 2002. Unfortunately the DPI can produce no plans for the vessel, despite being in survey, and this is going to make restoration even more difficult.

The modern galley, all stainless

The hull is planked with jarrah below the waterline and Oregon above. One report says nyatoh for the superstructure but I'd be surprised if nyatoh was around much in 1913; that may be for later modifications.
Currently, the hull itself does not leak, having been Dynel-sheathed some time ago. But the decks are another matter. They leak rainwater into the bilge from dozens of places and there is much dry rot around as a result. Even where decking has been relayed over ply sub-decks Mike is not happy as this only encourages pockets of water between ply and deck planks and hence, more dry rot. He has found a couple of chemicals which can be injected into such areas and one of which, at least, is very effective at restoring such dry-rotted timber. At the time of our visit Mike was unable to recall the exact brand, but it sounds like magic. All we need is something similar for aging bones!

Mike Beanland and Pete Russell at the bar

Mike has a huge restoration job ahead of him and admits to some interest from the Eastern States in acquiring the ferry but he is adamant that a piece of Perth and Fremantle heritage so important should remain here. More strength to his arm. As promised, Paul had snaggers and buns on hand and these he cooked on the Perth's barbecue on the upper deck, while Peter Leggatt brought the urn along for a cuppa as well. The Perth had a 1kva generator on board, enough for some lights or power but not both together. So we were able to look at the old Kelvin by lights for a while, then Peter was able to heat up the urn. It made a very pleasant Xmas barby.
We are indebted to Mike Beanland and to Paul Thompson and Peter Leggatt.

ADMINISTRATION NOTES

ABBA COMMITTEE

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JANUARY TECHNICAL MEETING

This is our first meeting for 2010 and will be held on Wed, 27th January, as usual at S of PYC Committee Room, 7.30 for 8 o'clock. For the first time in a couple of years we've decided to make it a Show and Tell evening where members simply stand up and talk for five or ten minutes on their particular project. We've found we can fill an evening pretty quickly that way. I've arranged with three or four people to get the ball rolling but everyone's welcome to contribute. Some photos to show around will help and if you've got anything in the line of a computer presentation that's even better, but ring me on 9397 6209 so we can arrange the club projector for that one. Don't forget the club evening meal beforehand if you're that way inclined.

FEBRUARY TOOLBOX VISIT

We're back to Paul Thompson's Osborne Park workshop for this one. As if having, I think it's three, boats to restore is not enough, Paul is now in the process of laying up several kayaks in fibreglass as well, using a mould he got from somewhere or other. Mould preparation, gel coats, lay-ups, etc, etc, can all be de-mystified in this visit, so don't miss it. That's at "Art on the Move", 8A, Carbon Court, Osborne Park, on Saturday, February 13, from 2pm to 4pm.

WANTED TO HIRE: VINTAGE BOATS

Heather Good, the Vehicle Coordinator with Cloud Productions Pty Ltd, which is filming Tim Winton's "Cloudstreet", is anxious to hire, short term, some unpowered boats from the '30s to '50s vintage, presumably as props. They're not all that common these days. If you can help you can discuss it with her on 0414 310 013 or Email her at hcgood@tpg.com.au I wonder what happened to the fleets of hire boats at places like Roe Boatsheds (Peppy Grove) and Smiths' at Mozzy Park?

GABOON PLY SUPPLIES

I used a fair bit of gaboon ply on my last two boats, back in the mid-nineties, when it was a good, lightweight material, ideal for small boats. The timber was harvested sustainably in West Africa and made into ply in, of all places, Israel, and it was cheap. These days, I suspect, the price has trebled and the quality and availability has deteriorated. These misgivings are also voiced by the Tasmanian boatbuilder, Andrew Denman in the current issue of "Australian Amateur Boat Builder". He's investigated several current sources of gaboon (none of them appear to come from Israel these days) and has ended up as Australian agent for Joubert Gaboon in France, in thicknesses ranging from 4mm to 25mm. Prices aren't mentioned but are claimed to be reasonable. He can be telephoned on 03 6267 4660 or he has a web site at www.denmanmarine.com.au I should point out that other advertisers in AABB also sell gaboon ply, not necessarily French and I'm not sure of WA supplies at the moment, either. However, Andrew is claiming better than average quality, with good thick outer veneers (good for scarf joints) in the case of the French product. It's also certified as BS 1088 by a third party, Lloyds Register, which is not always the case with other sources. My advice? Shop around.

If undelivered, please return to:
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