

# REBIRTH – **A VIABLE OPTION**

BY KEITH INGRAM



**T**here comes a time when you have to decide whether to give your floating asset a half-life rebuild, or whether it's time to cut your losses and start again from new. The trick is to determine when that time is, and to weigh up the costs and values. In doing so, let's not confuse a half-life rebuild with an extended serious maintenance period or major refit, they are two different animals and it is the results of this confusion that can prove costly in the long run.

A refit is just that, refitting and refurbishing the ship along with some structural modifications and reconditioned engines. In our local marine industry this mark normally kicks in somewhere between 12 to 15 years, whereas a rebuild will kick in between 15 to 25 years depending on the operational mode. For charter boats the time seems to be 25 to 30 years and for older vessels, it's a cost balanced between economics and earning capacity.

When we think of rebuilding we think of: a complete strip out to the bare bones, considerations of hull and structural modifications, and then we look at introducing modern technology which will essentially build a modern new vessel with a 25 year life expectancy on the old bones. This is where the work on the old bones counts. Stuff this up and you are in

for costly hull repairs just to maintain the hull. If the numbers don't crunch then it is best to start from scratch, cut your losses and start anew.

Ferries or fast ferries are an interesting case because they are, essentially a commuter bus with added frills for longer journeys.

When our largest ferry operator Fullers, in Auckland, were reviewing their fleet composition and eyeing up 2020 in their business case, their research revealed that they had capable vessels like *QuickCat* still doing the job after 25 years, and apart from a birthday she needed no change. However, just as the company has grown, so too has its fleet, much of it inherited from previous eras and owners, as companies merged.

*Tiger Cat* was one of their inherited but still extremely capable vessels. Granted, she always appeared to drag her arse at 17 knots, was scruffy, and built as a bus for a price, but in fairness to her original designer and builders *Tiger Cat* had very good bones. But at 18 years she was now very tired.

After doing all the costing of new versus rebuild, Fullers decided to rebuild. To build a new 150 seat fast ferry with a laden service speed of 22 knots would cost the thick end of three million. Taking into account her book value and a bit for



the unknown, the company was looking at spending around one million dollars, leaving a total capital investment on the books of something under two million. The numbers were stacking up.

With the decision made, this re-build would include lengthening the vessel by 2.1m, extending the canopy, a complete strip out and refurbishment down to deck-head panels and insulation, seating and carpets. Up front there would be new bridge consol

*Tiger Cat* had very good bones.  
But at 18 years she was very tired

and helm stations, while down below a complete repower, and new shafts and running gear were the order of the day. Air conditioning was needed for passenger comfort, meaning a new gen set, and finally a total repaint: all to be done in four months. Not bad when you say it quick.

## OCEANIA MARINE LIMITED

### REFIT, REPAIR & CONSTRUCTION



#### CAPABILITIES

- Slipway – 800 tonnes
- Repair and commissioning berths
- Undercover spaces – available up to 60 meters LOA
- Top paint facilities
- Full engineering workshops on site
- HVAC and all systems catered for
- Materials – Aluminium, Steel Composite & Wood
- Marine Electrical and workshops on site
- Interior fitout and refurbishment
- Class Survey – Experienced in all Classifications
- Flag States – All requirements including >500grt
- Project Management – Our specialty
- Design

4 Fraser St, PO Box 840, Whangarei 0140 New Zealand

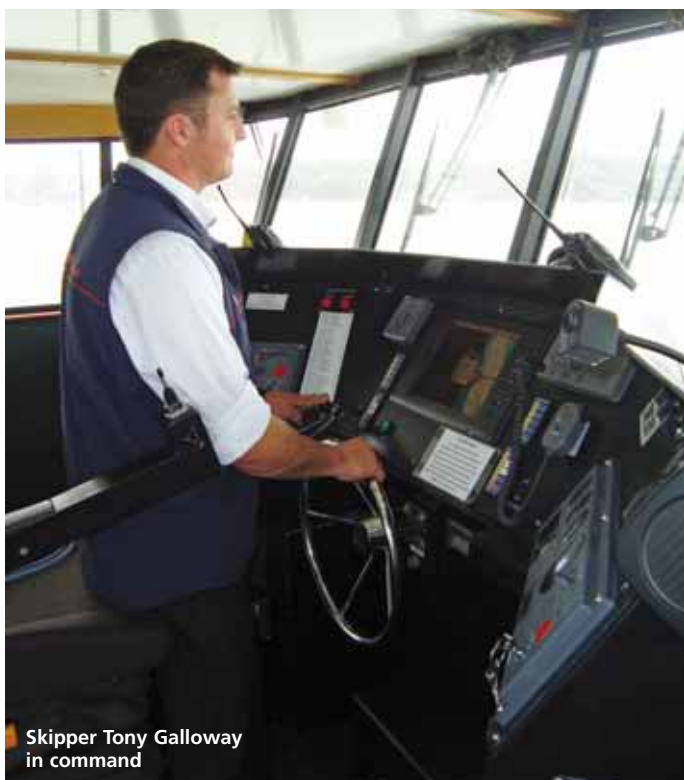
Phone: +64 9 4303148 - Fax: +64 9 4303147

24hr Mobile: +64 21 533156

Email: [info@oceaniamarine.co.nz](mailto:info@oceaniamarine.co.nz)

Website: [www.oceaniamarine.co.nz](http://www.oceaniamarine.co.nz)





Skipper Tony Galloway  
in command

Winter 2012 arrives and *Tiger Cat* disappears north to Whangarei and Oceania Marine who operate an 800 tonne slipway, along with large under-cover facilities that enable all weather working conditions. Oceania Marine is a recent success story that has evolved out of the superyacht refit and service industry. The yard has surrounded itself with the wide range of skilled sub-trades essential to any successful yard, and they were about to transform *Tiger Cat*.

Prior to *Tiger Cat's* arrival, Whangarei Engineering (WECO) manufactured the hull pod extensions, wing deck and bulwarks, off site. This was essentially going to be a clip-on for greater load carrying capacity and buoyancy aft, while helping her keep an even trim. Eliminating the dragging the backside look, would also increase waterline length and service speed.

Once hauled, the vessel was blasted clean, stripped bare, engines removed and the work began. The two new hull pods were lined up with the wing deck extension and all were welded together onto the stern of the hull. To add strength to the wing deck, a solid transom bulwark was constructed across the stern with a 900mm return up each side. New aft deck side loading doors were installed to suit the new passenger gangways.

With an increase in power, new shafts and running gear were



Bob Makin demonstrates  
the easy removal of seat  
covers for cleaning

required along with having the rudders and steering system upgraded. The twin shafts and rudders remained in the same position, and the 2205 stainless steel shafts were increased to three inches to take the new 31 x 31 five bladed Henley 'Tiger' propellers. Coupled to these were two new Yanmar 6HYN-ETE 600hp marine diesels, delivering the design spec of a laden service speed of 22 knots.

The engine rooms and all cabin bulkheads, screens and deck-head were fully insulated against noise and environmental temperature, prior to new linings being fitted. Meanwhile, Promarine Electrical rewired the vessel throughout to suit the new lighting and ship-board systems. This new cabin lighting system incorporates new LED multi colour strip lighting that ranges from bright to soft to party disco, if one were so inclined. We note the lighting in a softer mauve colour is practical for both day and night use.

As the rebuild continued all the safety glass was polished to make it sparkle again giving a new glass look. This was followed by a complete repaint both interior and exterior, top to bottom, with the wetted hull area protected by International Paints Inter-sleek foul release system. This is a silicone-based product suitable for planing vessels, especially vessels that are in constant use, like ferries. Topsides were recoated from the base coat using the International Paints two-pot system for hardwearing and easy to clean surfaces.

*Tiger Cat* is fitted for six loading points, either side of the stern and bow, as well as port and starboard main cabin doors. In the past these doors have always been a pain in that they allow the ingress of water when underway in inclement weather. To combat this problem new deep gutters have been incorporated

## FULL TIME MARINE ENGINEERS WANTED!

In this role you will be responsible for the safe and efficient running of the vessel's power units (mechanical and electrical) and its maintenance while in operation.

For this role you will need to have:

- Marine Engineer Class 5 (MEC5) or higher qualification
- Previous engineering experience onboard commercial ferries or similar vessels
- Be customer service orientated
- Full driver's licence and own transport

You should be comfortable working shifts based on a 7-day rotational roster, which includes weekends and public holidays.

If you would like more information, please contact Fullers HR on (09) 367 9112.

If you wish to apply now, please submit your application online at <http://careers.fullers.co.nz> under 'Latest Vacancies'.

**Fullers**  
We'll take you there

[WWW.FULLERS.CO.NZ](http://WWW.FULLERS.CO.NZ)



## Excellence in Propulsion

Propellers from Nial-Bz and Mn and Mn-Bz for:

- Tug Boats • Pilot Boats • Pleasure Crafts • Thrusters

Classes: LRS, NKK, BV, GL, DNV etc



AUSTRALASIAN DISTRIBUTOR

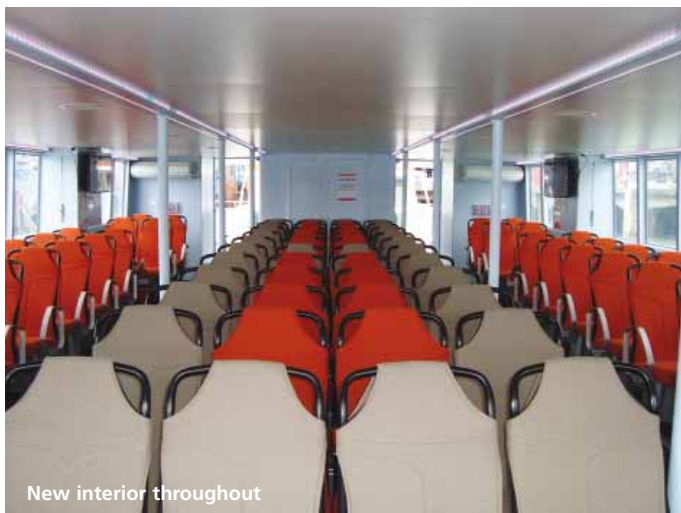
**HENLEYS  
PROPELLERS & MARINE LTD**

Tel: 64 9 443 5886 Fax: 64 9 443 5892 Email: [enquiries@henleyspropellers.com](mailto:enquiries@henleyspropellers.com)

Web: [www.henleyspropellers.com](http://www.henleyspropellers.com)



VIPS76



New interior throughout



Life jackets safely stowed in lockers

into the 200mm sills protecting the inside of these doors which keeps the water out of the cabin.

Because the vessel was to be fitted with cabin air conditioning a new 22kW gen-set was installed in the forward port void with a wet exhaust discharging into the tunnel.

In looking around we note another innovation: the clean lines of the aft deck canopy that were advised by Bob Makin, Fullers marine maintenance manager. The canopy weather deck top is 3mm marine alloy plate and was fastened to the frames and stringers by double sided tape prior to painting. Bob stole this innovation from the coach building industry and he is obviously pleased it. Bob said he had seen the sides of coaches held by this system and it is strong, shows no distortion, or weld or fastening lines, and above all was fully sealed underneath so that no salt or water can creep into the cracks and start corrosion. A smart, good-looking idea, with the top seams are sealed with a paintable white sealant product.

Because the ferry is essentially a commuter bus operating in enclosed waters on short trips of 35 minutes maximum, the company decided it didn't need an on board café. This would keep the manning level at two, eliminating the need for an onboard bar manager and the clean up costs associated with having a café and bar on board.

We caught up with *Tiger Cat* back in home waters during sea trials after completion of the final refurbishment fit out of seats and so forth.

On stepping aboard you can see that this is a new ship that still carries her dated, but functional lines. The extension of the hull is sheltered and the main aft deck passenger loading point is clean and practical. The two unisex heads with the new domestic

three litre conservative flush off the aft deck, are attractive and easy to access.

On stepping inside the main cabin one is struck by the 'WOW' factor. The cabin is dominated by the new, forward facing, orange and tan, eight kilo, lightweight seating. Tucked underneath are protective metal lockers with easy drop hatches to access the life jackets. On board music and TV entertainment is provided throughout the vessel. The cabin is air-conditioned and the feeling throughout is light and airy. We note the darker carpets. These are manufactured in the USA and come with a 15-year commercial wear warranty. The carpet is rubber backed

This rebuild is an excellent example of how successful rebuilding can be when the numbers stack up...

and laid over acoustic underlay. We are advised that this carpet may be water-blasted and wet vac cleaned and is now the company vessel standard and other vessels are following suit.

Access to the foredeck is easy when *Tiger Cat* is bow loading. Also up front are the twin anchors and winches. *Tiger Cat* is the only vessel in the Fullers fleet with operational twin anchors, a leftover from a previous role.

Moving up the aft stairs we arrive at the sheltered observation deck for outdoor travel. It has two large seating cubicles fitted with polished mahogany slatted seating that is easy to wipe dry. Further seats are in a more sheltered position against the aft ►

## MARINE MASTERS OPPORTUNITIES AVAILABLE NOW!

We have full time vacancies for marine masters to join our on-board crew. This role will involve managing the crew, overseeing the day-to-day care and safe navigation of the vessel and ensuring the safety and well-being of everyone on board.

### Requirements:

- Minimum 3 years' experience with high speed (25+ knots), large (20+ meters) passenger vessels
- Full driver's licence and own transport
- MEC 5 quals preferred but not essential
- Tourism experience preferred

We operate seven days a week so this role will involve working shifts on a rotational roster basis,

including regular weekend shifts and public holidays.

This is fantastic opportunity for those who love being at sea and working in a dynamic environment. A big plus of this role is that you get to go home at the end of every day instead of being at sea for months at a time!

Visit our careers site at <http://careers.fullers.co.nz> for further information to submit an online application.

**Fullers**  
We'll take you there

[WWW.FULLERS.CO.NZ](http://WWW.FULLERS.CO.NZ)

VIP588



**DUNSFORD  
MARINE LTD**

**MARINE SURVEYORS, SHIP MANAGEMENT,  
SALVAGE CONTRACTORS & LOSS ADJUSTERS**

HEAD OFFICE: 3 Scotland Street, Freemans Bay, Auckland 1  
Private Box 46-216 Herne Bay, Auckland  
Ph: 09 307 9122, Fax: 09 376 0090, A/H: 09 410 4786, 09 444 6873  
Bob Hawkins (021) 996 840 Kaz Aremka (021) 483 725  
Email: [survey@dunsfordmarine.co.nz](mailto:survey@dunsfordmarine.co.nz)

**[www.dunsfordmarine.com](http://www.dunsfordmarine.com)**

VIP591





bulkhead, facing aft. On stepping into the upper cabin, this space has got to be the business class of the ferry with table seating for commuters with laptops or iPads. The décor is the same, but what a nice place to travel. Mind you, you will have to be quick or get stampeded in the rush.

On stepping into the enclosed bridge we find a completely new, modern layout of all nav aids, switches and engine instrumentation, and a new helm seat. We are pleased to find the retention of a wheel at the conning position, although we note there is a joystick control on the seat arm.


Vision is excellent and there are berthing controls each side. We note the recording station and a small bench seat for when crew are taking time out to rest their legs. Gone are the night curtains, these have been replaced by 80 percent darkened blinds that kill the cabin's glare, but still allow the crew to see aft through the upper cabin when operating on night vision.

Once underway the sound of the grunty 600hp Yanmars below are reduced to an acceptable purr. Even on light load and when slightly down at the head, the vessel quickly lifts to maintain an even trim.

On watching *Tiger Cat* travelling with a load of commuters later, we were impressed to see that the 'drag me arse while pushing half the harbour' look is now gone. Likewise, the wash

coming off this ferry at speed is now markedly improved making for better relations on the upper harbour route and the Tamaki Estuary.

In summary, this rebuild is an excellent example of how successful a rebuild can be when the numbers stack up, rather than pull the plug and go for new. In this case the new option by the time it got to turn key would have taken the thick end of 10 months and \$3 million.

Yes, when considering fleet replacement and upgrades, by doing your homework and using the ship repair and refit capability of our workboat industry. It is, a viable option to breath a new commercial life into a vessel. And it may be that when an expensive new build is on the cards that the budget will just not support – it's a viable option! 

#### SPECIFICATIONS

LOA	22m
Beam	6.2m
Draft	1m
Power	2 x Yanmar 600hp
Passengers	148
Speed	22 knots

## WHANGAREI ENGINEERING

- New Ship Build
- Ship Repair
- Aluminium and Steel Fabrication and Welding
- Heavy Machining and Fitting

*Proud to be associated with the TIGER CAT project*

4 Fraser Street, Whangarei, PO Box 11060 Whangarei NZ

Ph: +64 9 438 7802 • Fax: +64 9 438 7803  
E: glenn@whangarei-engineering.co.nz

VPIS01

## PROMARINE MARINE ELECTRICAL

- Installation
- Repair
- Maintenance Services

4 FRASER ST, WHANGAREI

Phone: (09) 470 0559 or 027 669 6656

Email: promarine@oceaniamarine.co.nz



VPIS07