provision of the 2010 rules that allows for exemptions if the cruise line can demonstrate an equivalent level of safety.

USS *Nimitz* 1092' 333m 102,000GRT

Those bigger lifeboats have only enough room for passengers. To evacuate the more than 2,300 crew members, the ships are equipped with inflatable rafts that would have to be entered through 59-foot evacuation chutes.

"The simple problem is they are building them too big and putting too many people aboard," said Captain William H. Doherty, a former safety manager for Norwegian Cruise Lines, the world's third-largest cruise operator, and now the director of maritime relations at the Nexus Consulting Group. "My answer is they have probably exceeded the point of manageability."

He added, "The magnitude of the problem is much bigger than the cruise industry wants to acknowledge."

WORLD'S FIRST *FLNG* (FLOATING LIQUIFIED NATURAL GAS) PROJECT TO BE SITED OFF AUSTRALIA - - - SEEMS YOU ALWAYS GOTTA BE BIGGER!

Royal Dutch Shell (NYSE:RDS) has announced plans for the construction of the Prelude Floating Liquefied Natural Gas (FLNG) Project, the world's first FLNG facility. Shell plans to moor the Prelude FLNG some 200 kilometers off the Australian Coast at the Prelude gas field for 25 years, where it is expected to produce the equivalent of 110,000 Barrels of Oil Equivalent (BOE) per day. Once completed, the Prelude FLNG facility will not only be the world's first FLNG facility, but will also hold the title of the world's largest floating object ever constructed.

Just how massive is it?

Fom bow to stern, the Prelude FLNG measures 488 meters long (that's more than 1,600 feet long or only 12 metres or 40 feet short of half a kilometre) and 74m or 243 feet wide That's longer than 4 rugby football fields laid end-to-end, including the touch zones. That dwarfs the massive Triple E Maersk ships by 300 ft (92m) and even the late *Knock Nevis* supertanker by nearly 100 ft.

When fully equipped and loaded, the Prelude FLNG will weigh around 600,000 tons – that's roughly six times as much as the largest aircraft carrier.

It will be constructed with 260,000 tons of solid steel – that's more than three times more steel than the Golden Gate Bridge. Its tanks can hold the equivalent of 175 Olympic-sized swimming pools.

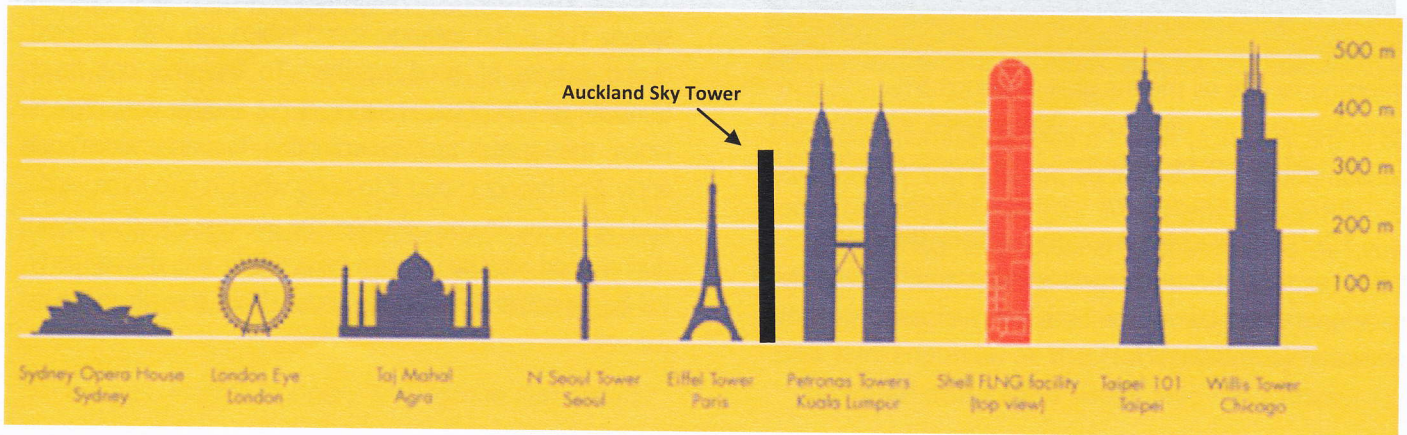
In addition to its impressive size, the Prelude FLNG facility will be strong – able to withstand Category 5 cyclones the area is known for.

Another breakthrough with Prelude FLNG facility is that ocean-going LNG carriers can offload liquefied gas, chilled to minus 162 Celsius and shrunk in volume by 600 times, directly from the offshore facility – something hundreds of engineers spending a cumulative 1.6 million hours took to figure out. Until now, the liquefaction of offshore gas has always involved piping the gas to a land-based plant.

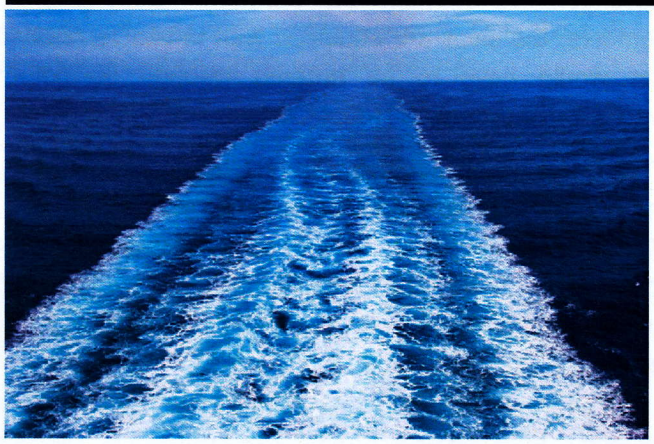
The Prelude's unique design was developed in partnership with Technip and will be constructed at Samsung Heavy Industries in South Korea.

More information on the Prelude FLNG can be found at Shell.com. www.shell.com/

Images courtesy Shell



SHIP SPEED AND CONSUMPTION DISPUTES – HOW ARE THEY RESOLVED?



Wake from a cruise ship.
Image (c) Shutterstock/atm2003

This article was prepared by Captain Ian Hodges to try and clarify those problems that often occur when fuel use can becomes a factor or excuse in charters that do not provide the expected return.

In resolution owners and charterers enter into an agreement known as the 'charter party', which is the contract specifying many things, including a 'performance clause'. This is usually found in the additional clauses, and is often under 'ship description'. The performance clause, also known as the 'performance warranty' is typically worded as follows:

a) Ship to achieve speed of about 13.0 knots laden, on about 36 tonnes IFO 380

b) Ship to achieve speed of about 14.0 knots in ballast, on about 36 tonnes IFO 380

As can be seen above, there is always a difference in speed and consumption between laden and ballast conditions (the alternative is to use the same speed for both conditions, and allow less fuel oil when in ballast, which in this example could be 13.0 knots on about 34 tonnes).

The word 'about' has been included in Charter Parties for many years, and legal precedent shows us that 'about' when referring to speed mean plus or minus half of one knot, so in this instance, when laden, about 13.0 knots means a minimum of 12.5 and a maximum of 13.5. In the same way, 'about' when referring to fuel oil means plus or minus 5%.

So in this instance, would mean a maximum allowable consumption of 37.8 tonnes per day (36 + 5%). Just as with speed, the 'about' can also applies the other way, so a minimum of 34.2 tonnes per day (36 – 5%). Some argue that the 5% additional fuel oil applies only when the ship meets the minimum warranted speed ***(variable 1).***

Speed

In this example, clearly under-performance starts when the minimum speed is less than 12.5 knots and so recompense will be due to Charterers. Although it seldom occurs, one must ask when can an Owner claim for over-performance? Owners would argue over-performance starts when speeds exceed 13 knots. Charterers would argue that over-performance start when the speed exceeds 13.5 knots ***(variable 2).***

Consumption

In this example over-consumption starts when the ship consumes more than 37.8 tonnes per day. Again, one must also consider when under-consumption starts as this too does occasionally occur. Of course, Owners could argue it is when the ship consumes less than 37.8 tonnes per day. Charterers would say it starts at 36.0 or even 34.2 ***(variables 3 & 4).***

Owners will want their ship to meet the minimum speed and at the same time the maximum fuel oil consumption. However this is more important to Charterers, as any excess time spent due to not achieving the speed, and/or any excess bunkers consumed, will ultimately cost them more money. How they get compensation from Owners is another story, which if not mutually agreed (and it rarely is) is for the lawyers to sort out.

Over-performance and under-consumption must often be considered when a ship has executed many voyages under the same charter party, for example a two year time charter. This is because if Charterers are claiming for under-performance and/or over consumption over say 20 voyages, then of course owners will naturally attempt to mitigate their potential losses and counter the claim. Some say that over-performance and under-consumption does not apply, as it is the duty of the Master of the ship to ensure this does not occur ***(variable 5).***

The first thing to do is to calculate the average good weather speed. This is the average speed which the ship achieved during periods of good weather. To find this one must eliminate periods of bad weather, or put another way, periods when the speed and consumption warranty does not apply. You cannot expect it to apply when in gale force winds and high seas. So one calculates the average speed achieved during good weather. Somewhere within the charter party will be a weather clause which usually looks something like as follows;

c) Winds not greater than Beaufort force 4, seas not greater than Douglas sea height 3.

What this means is when the wind is greater than force 4 (Beaufort force 4 = 11 to 16 knots), OR when the sea state exceeds Douglas sea height 3 (Douglas scale 3 = 0.5 to 1.25 metres, which is derived from WMO table 3700), then during that period the ship cannot be expected to meet the performance warranty (some argue Douglas sea height 3 is a maximum 2.0 metre wave, ***(variable 6).*** The next thing to consider, is for how long one of these parameters in 'c' exceeds the maximum in a 24 hour period, before the whole 24 period is deemed as not qualifying as a good weather day. Should one consider it to be over the whole 24 hour period, or can this be reduced to say 12 or even 4 hours? ***(variables 7-8-9).*** Breaking it down to 4 hours sounds complicated, but ship' ship staff routinely record the weather at every change of watch, which is every 4 hours.

There are other parameters which often appear in the weather clause, as follows;

d) No adverse currents

This means when the vessel is exposed to adverse currents, the period is either excluded as being a good weather period, or the current is applied to the speed over the ground to derive the speed through the water ***(variables 10).*** If negative currents are allowed for, this increases the speed through the water, and as such is beneficial to Owners. To take it a step further, positive currents can be accounted for too, which reduces the speed through the water, going in favour of Charterers ***(variable 11).***

In summary, the calculation of compensation is difficult. As you will have noticed, I flagged the variables throughout. With 11 variables each having 2 possible outcomes, by the simple principles of permutation, the number of outcomes is 2 to the power of 11, or calculated as follows;

2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 x 2 = 2,048

So you can see, it is no wonder that when the performance calculations are made, Owners, Charter-ers, weather routing companies, Marine Engineers, and even Master Mariners like me, cannot agree on the outcome. That is even before you consider whose weather is most suitable to use, namely ship's recorded weather, or weather routing company weather!! I intend to discuss the weather source in another article as this induces further argument.

I have analysed over 500 voyages, and can tell you from experience, these calculations are actually straight forward. I am often guided by the lawyer, as I would never try and tell a lawyer how to interpret a clause!

Ian Hodges, Master Mariner; *TMC Marine Consultants*

Dockwise's new Type-O heavy lift super-vessel, *Dockwise Vanguard*, ready to depart Samsung Heavy Industries in Geoje, South Korea early last year on her maiden voyage to Ingleside, Texas with the 56,000 ton *Jack/St.Malo* semisubmersible. Image Dockwise

The mighty *Emma Maersk* being escorted from the Suez Canal in December after suffering serious leaks caused by insecure cable penetrations through an after watertight bulkhead. These were considered by her master to be potentially critical to her canal draught. She was repaired at the North Suez container terminal and sailed south two days later.

THE PATEA CHEESE BOATS
STORMBIRD

Patea in its heyday ca. late 1930s. Six vessels berthed in Patea. Left to right at general cargo wharf: m.v. *Fairburn* , s.s. *Kapuni*. Left to right at the cheese loading wharf: s.s. *Hawera*, m.v.*Foxton*, m.v. *Inaha*. The crane jib of the Patea Harbour Board's grab dredge *Wallace*, berthed at the cattle wharf on the opposite bank of the river, is just visible below the photographer. The small white building seen immediately above the saw toothed store building was the head office of the South Taranaki Shipping Company. Photo: *Jack Churchhouse*

Most of us know where Patea is. Most of us know it's a small country town. Most of us know too, that both SH3 and the Taranaki Main Railway line pass through it. Most of us also know that the town is only now recovered from the depression caused by the closing of the freezing works some years back. But how many of us are aware that up until the early 1960s Patea was the world's largest cheese exporting port? This may sound unlikely, especially as during the 110 years life of the port only one large overseas cargo ship ever called there (NZ Shipping Co's. *Otarama* in January, 1900) and she was loaded, not with dairy produce but 1200 bales of wool transferred to her by lighter while anchored in the roadstead off the port.

The Beginnings

Patea is central to what is arguably the world's most intensively farmed dairy region from where cheese is still the primary end product. Fonterra's Kiwi Dairies near Hawera, which is serviced by numerous heavily loaded milk trains daily, continues the grand tradition in being the largest dairy factory in the world. The town had the advantage of being situated at the mouth of the only navigable river in South Taranaki so was ideally suited for the transport of produce. Although not officially proclaimed as a port until 1871 Patea had its beginnings as early as 1864 servicing both the surrounding settlements and the military forces.

A cheese grading store was built on the river by a co-operative, The West Coast Refrigerating Company, in 1901 and the Harbour Board agreed to build another wharf alongside. This facility eventually grew to command all cheese destined for export from a huge catchment extending as far south as Orua Downs and Taikorea, (near SH1 and just north of Himatangi) as far north as Rata, (about 17ks north of Marton) and the whole of South Taranaki (from north of Opunake to Eltham). The cheese volume grew to such extent over the years that by the 1920s it required the full commitment of three ships for some 10 months of the year to transport it, and often the service needed added capacity which required the chartering of an additional vessel. Although the port once handled large volumes of general cargoes as well as the output of the large freezing works, these gradually died away as railway efficiency increased and most coastal ships carrying on inter-island trade became too large to use the port and began transhipping cargoes consigned to/from South Taranaki to/from rail at Castlecliff or Wanganui. I should also mention that Castlecliff was also often a terminal port for cheese loading, especially when the

Grader Cool Store in Patea became overloaded or when the Patea River bar became unworkable.

How?

Despite all this, how on earth could Patea become the largest cheese exporting port in the world when only small coastal ships frequented the port? It happened like this. Eventually, the South Taranaki Shipping Company overcame all competition to the port and entered into a contract with the Cheese Grading facility that was to last almost 50 years and thus became the sole cheese carrier from Patea. This cheese was transhipped to Harbour Board cool store in Wellington to await consignment to overseas ships. Naturally, this involved considerable handling, wharfage dues, and the many other administrative charges and paper shuffling that seems to attach to the movement of export goods. This added considerably to costs. In the early 1920s, however, the South Taranaki Shipping Company gained an agreement with the overseas shipping lines that enabled export cargoes consigned from Patea to pay the same rate as those shipped from Wellington.

Thus cargo from Patea destined for export became essentially en route to distant destinations as soon as it was loaded. The Patea ships now, whenever possible, berthed directly alongside overseas ships in Wellington and unloaded their cheese directly into the big ship's holds. The Wellington Harbour Board cool store was only used when direct transhipment was not possible, but the cheese stored therein was officially regarded as transit cargo, no longer situated in the New Zealand realm. This formula continued for administrative convenience and so Patea became the largest cheese exporting port in the world, by contrivance rather than design, but nevertheless, was entitled to assume that mantle.

Different Ships Different Short Splices

As a young officer I took a temporary job in the Patea ships, which eventually stretched to some eighteen months in the various ships, but I retain a certain affection for one particular vessel, the *Inaha.* Looking back I remember this time fondly and learned more about seat of the pants seamanship than ever was possible in the larger ships. I remain grateful for experiencing this time even though the work was wet, hard, the accommodations basic and the hours very long.

My first impressions were of a very relaxed and casual commitment to the operation of the ship and her navigation but I soon quickly realised the short coasting trips, usually overnight, meant there was little time available for other than essential maintenance. The fancy paint work and scrubbed decks of the distant water ships were not practical on small coasters.

So it was with their navigation. Bridge books and fair copies of the Log had no place here, instead a large diary was provided in which all the ships passages were recorded by the watch officers showing courses steered by standard compass, changes of course, and the times of passing various notable features. Taffrail log lines, the almost universal tool at this time in recording distance travelled, although necessary when steaming over long fetches, were not used frequently as the small distances steamed made elapsed time sufficient in calculating a dead reckoning position. Although compass errors were recorded this was most often done by checking the transit of known landmarks or leading lights and only rarely by star or sun azimuth. Not in evidence either, were the neat uniforms of the big ship men but rather was worn the more practical old clothes of the gardening variety.

The Coasting Men

These coastal men were fine seamen, though, and their expert knowledge of the coastal routes they worked made unnecessary the same attention to the checks and balances that were constantly performed in bigger ships. Generally coasting ships were only capable of much slower speeds than long distance vessels and this lack of power often made it necessary to navigate closer to the shelter of land or to make much closer approaches to dangers than could be tolerated in big ships. This was necessary if they were to keep to anything like a schedule and sometimes because their lower power gave them no option. I came to understand this but I had been trained to take a ship anywhere in the world and such training by its nature did not require comprehensive detailed knowledge. That's what pilots were for. These coasters, I eventually realised, were a different world where the important thing was local knowledge, and local knowledge was what turned the profit in this type of seafaring. I had not realised this so well before and regretted my past attitudes to the small coaster men who often appeared to run their vessels in contravention to what would be regarded as good big ship practice.

The catering, however, if not provided on silver service, was totally first class, and I enjoyed far better meals than I have experienced in any ships I have been in before or since. This was a hallmark of coasting vessels and compensated well for the less agreeable accommodations and the often uncomfortable ride that the small ships could not avoid in boisterous sea conditions. The time came, however, although it did not cross my mind then, when ship owners would be forced by legislation to fit radar and other electronic aids in their vessels. Such aids together with more modern ship design and changing transport patterns eventually ended the need for the acquisition of the old practical coasting skills and they are atrophying and slowly being forgotten, probably to be lost, with the demise of the last old-time coastwise mariners.

Signing on:

I joined the *Inaha* as Mate and was shown to the smallest cabin I ever lived in, in the whole of my time at sea, but generally this small ship, although built in 1923, had better accommodation than most her size and had the luxury of a spacious saloon (officers dining room.) She was, despite her size, a handsome