

# Go slow?

*Lesley Bankes-Hughes considers whether slow steaming is here to stay or is just a near-term solution to deflect current market pressures*

**O**n paper, the concept and advantages of slow steaming couldn't be simpler. If a vessel reduces its speed by 5-7 knots on a loop then the cost benefits to be gained from fuel savings are clear and substantial. In these difficult economic times for the maritime industry, anything that can mitigate the impact of high fuel prices must be seen as good news, and if the effects of slowing down also result in an environmental benefit, then the adoption of slow steaming would seem to be a win-win situation.

With any good idea, however, the negatives, or at least the questions, soon follow, and this is certainly the case with slow steaming. The issue of the potentially adverse effects on ships' engines has been raised, while some shippers are asking when carriers might begin to pass on some of the cost savings accrued through reduced fuel usage.

As the pressure intensifies to move goods through the global supply chain faster and more seamlessly (and it must be remembered that shipping is just one, albeit very important, element of this chain), the notion that the sea stage of the journey can be lengthened without any knock-on effects on the rest of the logistics process may be somewhat naïve. Although an extra one or two vessels can be added to a loop to prevent delivery delays, this doesn't actually resolve all the issues thrown up by slow steaming. Indeed, some commentators argue that the cost benefits achieved by reducing speed are substantially wiped out if additional vessels are then added to a loop.

To a large extent, slow steaming is one of the current buzz words in the shipping industry because it works so well in today's fragile maritime economy. Because the volume of cargo requiring long-haul transportation is well down on recent decades, a good percentage of the global fleet is therefore laid up, and so there is available tonnage to be used on trade routes. Slow steaming is viable because of the current global financial doldrums and it also gives carriers a ready-made opportunity to put a break on escalating marine fuel bills.

However, as all in the maritime sector know so very well, shipping is a cyclical industry, and these unusual times will not last forever. For shipowners looking to plan future fleet propulsion capabilities, the conundrum is to guess how long the window of opportunity for speed reduction can remain open. A vessel's operational life is a relatively long one, so designing it to operate

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at slower speeds than the currently accepted norm might be a short-sighted strategy when the global appetite for trade returns.

The requirement for faster transit times has increased over the past 20 years, with average speeds for a container vessel rising from 17.5 knots in 1986 to 21.6 knots by 2007. Since then, a 23-25 knot average speed has been widely employed but when the effects of the global financial crisis filtered through to the supply chain the use of slow steaming began to gain favour. Now, a number of carriers are sailing their vessels at 20-22 knots, particularly on the long-haul Europe/Asia routes (where slow steaming can save a shipping line over \$10 million per voyage in fuel costs). There is also a move towards using extra slow steaming (17-19 knots) and even super slow steaming (14-16 knots or below).

**Maersk** was an early advocate of the benefits of slow steaming and in 2009 reported savings of some \$500 million through the use of this and other environmental initiatives. Other shipping lines have also followed suit on a number of their routes. Last July, **Hamburg Sud, CMA CGM and Hapag Lloyd** introduced slow steaming on the direct service between the East Coast of South America and North Europe while in November, **Zim** opted for super slow steaming and the addition of an extra vessel on two of its services.

The Asian routes are proving to offer plenty of scope for slow steaming with, for example, **Hanjin Shipping** slowing down on one of its Asia/US East Coast routes, and two trans-Pacific loops (New Orient Express and Pearl River Express) being subject to a service extension from five to six weeks and the addition of an extra vessel.

So the major players are steadily signing up to the concept of slow steaming, but they are independently taking the initiative to do so. In February, the **US Federal Maritime Commission** gave the go-ahead to members of the **Transpacific Stabilization Agreement (TSA)** to discuss environmental issues and strategies, including slow steaming. This may well prove to be a key turning point in the way that the slow steaming debate has

been handled as ensuing discussions may result in a more cohesive, across industry approach to the pros and cons of speed reduction. According to the TSA's Executive Administrator, Brian Conrad, 'Environmental programmes are going to play a critical role and entail major investment in carrier operations; it makes commercial sense that these be undertaken, where feasible, based on joint research, sharing of best practices, and coordination to promote environmental responsibility and operational efficiency'.

### Engine fouling

Some critics claim that problems such as engine fouling and high component temperatures can result from slow steaming, but they seem to be increasingly losing this particular argument. According to Gijsbert de Jong of **Bureau Veritas**, engine loads can be taken down to as much as 10% without undue problems. 'There are some technical issues, but they can be mitigated by taking advice from engine manufacturers', he says. Both **Wärtsilä** and **MAN Diesel** offer retrofit solutions which allow for engine modifications, but which would also allow a vessel to return to full sea speed operations if required.

For many carriers whose balance sheets turned a deep shade of red in 2009, the obvious and immediate upside of slow steaming is fuel savings – and the financial impact of speed reduction is a dramatic one in the maritime sector. Gijsbert de Jong explains the situation simply and effectively: 'If you double a ship's speed it uses eight times the fuel...so using 10 vessels going slower on a loop is still cheaper than using eight going faster'. The TSA's Brian Conrad concurs with this view: 'Current estimates are that reducing sailing speed for a 5,500 twenty-foot equivalent unit (TEU) vessel from 24 to 18 knots produces a 60% reduction in fuel consumption. With fuel currently accounting for 60%-70% of total operating costs per sailing, the fuel savings would appear to cover the cost of an additional ship.'

The fact that going slow has a beneficial environmental impact is perhaps a secondary issue in the slow steaming debate. If global trade were buoyant and fuel prices were lower, then a cynic would say that only the most altruistic of businesses would opt for slow steaming purely because of its ability to reduce greenhouse gas (GHG) emissions.

A newly-published report commissioned by **Seas at Risk** claims that 'the emissions of bulkers, tankers and container vessels can be reduced maximally by about 30% by using the current oversupply [of tonnage]

to reduce speed, relative to the situation in 2007'. The study also suggests that this can be achieved without retrofitting slow steaming equipment.

The report makes for persuasive reading, but it points out that its remit was solely on making a correlation between the use of vessel oversupply, a reduction in vessel speed, and a cutback in GHG emissions. It very fairly states that it has not considered the technical, practical, logistical and legal issues which also emanate from the slow steaming debate. Furthermore, it also suggests that the environmental benefits it has quantified may be seen as a short to medium term solution given the current availability of unused tonnage.

Looking to the future, however, surely the shipping sector must ask itself whether the environmental benefits of slow steaming will remain at the top of the 'green' agenda only as long as it is economically and financially prudent, or expedient, to do so?

Discussions which may go on within the membership of the TSA may well throw up many of the questions and answers which surround the efficacy of slow steaming. With a membership drawn from 15 of the world's major container lines it has, over the past 20 years, provided a forum for discussion and research for those lines plying Asian-US trade routes.

**Bunkerspot** asked Executive Administrator Brian Conrad how the TSA is planning to take the slow steaming debate forward: 'It is still a bit early for concrete action, mainly because we are also in the midst of 2010-2011 contract negotiations... In addition, most carrier slow steaming programmes are also in the early stages, and lines are internally monitoring their individual services toward establishing baseline data for upcoming discussions,' he said.

Looking ahead, however, 'Presumably, TSA will be collecting and developing aggregate data from the member lines – relative speeds, consumption patterns, fuel and cost savings, emissions reductions, etc – but until a formal reporting methodology is agreed upon and implemented, individual lines will be making those evaluations internally,' said Conrad.

As lines reap the benefits of reduced fuel costs, there is a groundswell of unease among their customers, anxious that they, too, should be allowed to share in these financial savings. Conrad stresses that this issue has already been addressed: 'The TSA has advised customers that it will monitor net fuel and cost savings over time, and will modify its bunker surcharge formula as warranted. Up

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to now, slow steaming has not been widely enough deployed, and we do not yet have aggregate fuel consumption/savings data that can be applied to an "average" sailing and measured against the assumptions applied in the current formula.'

One of the arguments against slow steaming is that it can disrupt the flow of goods along the supply chain. Conrad argues that the addition of one or more vessels to a service string should maintain overall schedules. However, he does acknowledge that a shipper will have to make some changes to its operational timings: 'The difference is that a shipper who needs to make the same delivery date at destination must book on an earlier sailing, and therefore meet an earlier vessel cut-off date for loading at origin.'

Shipping schedules have never been an exact science, and there has always been a degree of 'slack' within timetables, some of which can be 'absorbed' by slow steaming without any detrimental effect on route times. However, having to meet earlier sailing dates could, perhaps, affect those businesses who operate on a just-in-time basis? Other potential problems which have already been flagged up include the impact on berthing windows caused by arrival alterations and the addition of one or more vessels on a loop, as well as demurrage issues and higher cargo insurance costs. The **European Shippers Council** has also highlighted the possible impact on stock levels as well as on cash flow – the later arrival of goods at their destination will invariably push back payment dates.

Conrad seems to be pragmatic about the effects of slow steaming on scheduling: 'Shippers faced similar considerations when they realised that, with added planning, they could shift cargo to slow US East Coast all-water services and thus bypass port congestion, harbour fees, and higher intermodal rates. So supply chains have proven to be quite flexible,

as long as carriers and shippers adequately cooperate and communicate.

Conrad sees slow steaming as having a place in the long-term strategy of shippers in the context of a range of environmental initiatives. However, while slow steaming seems an eminently viable strategy in the current financial climate, how can it maintain its financial attractiveness if we ever move from economic bust to boom? Both Gijsbert de Jong and Brian Conrad point to a similar future scenario.

Conrad suggests that: 'We may see a slow steaming baseline plus differentiated premium services using faster ships on targeted route segments.'

De Jong also thinks that there will have to be flexibility on route speeds. Perishable goods will still need fast transit times provided by high speed vessels, whereas non-critical cargoes could perhaps be transported by slower, different generation vessels. He points

to the recent decision by **Horizon Lines** to introduce a new fast (23 knot) trans-Pacific liner service from December 2010 as a possible indicator as to how diversification may play a bigger part in vessel scheduling.

He also suggests that carriers will have to face some tricky questions when it comes to deciding on new vessel design. While it may be economical to design a ship to go at 18 knots in today's climate, trading conditions can change.

With vessels having a relatively long operational life of around 30 years, a carrier must be sure that the design decisions it makes can accommodate possible shorter term trading volatility. De Jong cautions that while the market outlook may be bleak in early 2010, there could again be a time when cargo volumes may exceed the available supply of vessels. If such halcyon times do return, the shipping industry's commitment to slow steaming will surely be put to the test?

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