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Kick-starting Ballast Water Treatment Markets

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Let's assume International Maritime Organization (IMO) ballast water discharge regulations are ratified and similar U.S. Coast Guard (USCG) rules are established in 2011 or 2012, and governments make commitments to implement and enforce them a year later. Then what? Does it make sense to trust fledgling ballast water treatment system (BWT) markets to mature fast enough with enough supply capacity to allow widespread compliance and significant reductions in harmful ballast water discharges? If not, what interventions in BWT markets will be required to kick-start them, so they have a chance of doing what will be expected of them?

Based on planned IMO compliance deadlines, over 50,000 merchant ships will need to install certified BWT systems by 2016 or 2017; that's about 10,000 ships per year for five or so years after ratification. Since many larger ships may need to install multiple BWT units to meet IMO discharge standards, the number of actual BWT units that will need to be manufactured and installed during those years to achieve widespread compliance may be closer to 20,000 or 30,000 per year. If these numbers are off a bit, or the IMO and USCG compliance schedules are relaxed by a year or two, the overall situation is still the same - for ballast water regulations to succeed, BWT supplies will need to grow very large, very fast.

In business, however, there is usually a multiyear lag between when decisions are made to invest in manufacturing capacity and when large-scale production can take place. This means significant investments in BWT manufacturing capacity will need to be made very soon for BWT markets to provide what ballast water regulations need to succeed. Fifty or so BWT vendors, mostly small start-ups, are flirting with entering the market, some large shipping companies are dabbling with ship-board demonstrations, and a few actual transactions have taken place. However, no serious investments are being made in BWT supply capacity, and none can be expected until there is more certainty about the size and timing of global demand for BWT systems. That certainty of demand, of course, will not exist until nations make credible commitments to enforce ballast water regulations with certain and meaningful penalties. Unfortunately, it will be politically and practically impossible for nations to commit to enforce these regulations as long as inadequate BWT supplies make it impossible for many ship owners to comply with them. This

stagnating loop of interdependency between the implementation of BW regulations and the development of BWT markets – regulators wait for supply capacity before taking firm action, while investments required to create that supply capacity wait for firm action by regulators to stimulate demand – is a serious threat to successful ballast water regulations.

So, should the IMO and/or USCG or some affiliated public entity intervene in BWT markets now to firm up demand or stimulate supply so they will be ready to perform quickly once implementation and enforcement details are worked out? If BWT markets were "normal" (somewhat self-regulating) markets the answer would probably be no, because we could expect profit-seeking suppliers to cleverly anticipate what buyers want and respond to price and quality standards imposed on them by buyers. However, regulation-driven BWT markets will not be "normal". With very few exceptions, ship owners are reluctant buyers of BWT systems and are concerned about compliance costs, not quality, and stand to gain, not lose, if BWT markets falter and prevent or delay the implementation of costly ballast water regulations. Vendors of BWT systems cannot attract private investors to create supply capacity in such a whimsical market.

BWT markets are actually three way markets that involve the interests of buyers, sellers, and regulators, who represent all the rest of us and have two important roles to play. They need to impose quality by requiring that ships install, maintain, and use "certified" BWT systems with adequate BWT capacity, and they need to nurture supply to assure that these systems are available so that imposing quality control makes sense.

The problem here is not that allowing BWT markets to stagnate while regulations move ahead will just delay the success of ballast water discharge regulations. Near-term BWT equipment and installation bottlenecks will require regulators to decide how to deal with ship owners who, perhaps through no fault of their own, are found not to be in compliance. Imposing significant penalties on such ships would not be fair. A seemingly fair alternative might be to issue no cost “fix it” citations that require such ships to provide proof that they are in the queue to have a certified and appropriately-scaled BWT system installed by a particular date, with significant penalties associated with not having proof that the ship is actually in compliance by that date. However, individual ship owners can't control when or how BWT markets develop or the BWT supply or installation schedules of the outfits they deal with, so what deadlines and what penalties for missing them would be fair? And, how will regulators distinguish between ship owners who tried to comply and failed, and those who decided to “game” the system and never really tried? The near-term failure of BWT markets, in other words, could set up a near-term loop of weak enforcement and weak compliance that would be difficult to break and result in long-term harm to BWT markets and the effectiveness of ballast water regulations.

So, it seems that unless regulators are willing to delay implementation and/or tailor enforcement strategies and penalties to react to shortages in BWT

markets they will need to somehow bolster supply, demand, or both. On the supply side this may involve making or guaranteeing loans to BWT suppliers, or subsidizing insurance or assurance instruments that indemnify investors in BWT supply capacity against certain types of economic losses. On the demand-side it may mean forming or finding a guaranteed buyer of last resort, or establishing a government/industry enterprise to purchase large supplies of BWT units to be resold later to ship owners and shipyards as demand firms up, or "grandfathering in" certain types of BWT systems to prevent ship owners from waiting for better or lower cost BWT systems. And, there could be a role for private insurers, at some price, to remove some risk from early investments in BWT supplies.

One way or another, however, some collective effort to kick-start global BWT markets will be needed for them to be ready to do what proposed ballast water regulations will require of them. This effort will need to focus on reducing uncertainty about BWT demand, reducing the risks associated with investing in BWT supply, or both.