Ballast Water Management – Update / Reguations an implementation experiences

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Since nearly 20 years the subject "Ballast Water Management" is in discussion on international base and a lot of efforts have been made on all levels to understand the complex issue and make it workable.
Much has changed, but much stayed the same.
Still, bio-invasion is one of the four greatest threats facing the world's oceans today.
National as well as international regulations asking for solutions in the market.
We remember 8. September 2016, when the small country "Finland" adopted IMO's "The International Convention for the Control and Management of Ships Ballast Water and Sediments, 2004", which became enforced one year later.
Under the IMO regulations *all* ships are going to need ballast water treatment solutions on short-term. -
The existing implementation schedules are not aligned at all. Depending on the ballast water capacities and keel laying date the compliance dates are varying. For existing vessels the USCG reflect on the scheduled dry-docking process whereby the IMO focused on the renewal of the IOPP - certificate, which was reviewed during the 71. & 72. Session of the MEPC meeting in 2018 and finally adopted. The USCG and consequently the EPA has not changed its implementation schedule since it was published in 2012.
USCG made changes to Ballast Water Rules and issued a revised navigation and vessel Inspection Circular (NVIC 01-18) that fundamentally changed views on extensions to compliance dates.
Still there is a gap between IMO revised G8 guideline, which became the "Code for Approval of BWMS", and USCG type approval procedures. The USCG Authorization Act and the Vessel Incidental Discharge Act (VIDA) provided a bipartisan agreement on language to the US Senat which may lead to harmonization of the approval methodologies. View manufacturers are investing in both approval schemes and the prediction of an increase of approved products worldwide could be verified.
To date 17 BWTS have been type approved by USCG and around 100 different systems are actively being marketed. The most popular combination is filtration and UV, followed by a combination of filtration and electrolysis/electrochlorination. Both technologies are seen on the USCG type approved product list.
Research are ongoing in developing new optimized filtration systems in order to improve the efficiency of the BWTS. The USCG set its own standard which is on a higher level than IMO.

IMO's marine environment protection committee made some important decisions in 2018 regarding sampling procedure, which is one of the major unresolved challenges. Principle and procedures for mandatory ballast water sampling have been established.
In the meantime view mobile testing equipment could be found in the market representing indicative results. This is the first step entering the testing regime requested by the BWMC.
In addition to that the "Experience Building Phase" concept was adopted, paving the way for a long- term review of the BWMC's implementation. EBP consists of a data-gathering stage, a data analysis stage and a BWMC (convention) review stage.
An expand rapidly run up latest 2024 is expected asking for ballast water treatment technologies.
At moment around 6.500 vessels are installed with a BWTS and further 2.500 vessels are on order book. The potential market is remaining 80% of the world cargo fleet (of ca. 60.000 vessels), which will need to have retrofitted BWTS by the end of 2024.
The manufacturer are trying to prepare themselves and invest in production capacities as much as possible. In the peak time logistic challenges for all vendors may be a key issue if operating

schedules will change.
Within the last months data from PSC inspections reveal BWMS deficiencies of different types. Most of them are ISM related and relates to missing data in the record book. Lack of training and familiarization of technology were issues as well. Developments are ongoing to support the industry in this instance. In addition reports of malfunction of major units/parts due to wrong installation, wrong materials and improper design were received and does not match the sea conditions.
Still there are few questions not answered and needs to be discussed. One major threat will be the commercial investment. Only few financing options for BWTS installations are offered by the market and supports the industry.
So far, one is obvious, BWM turned out as the complex task in the marine industry which was ever faced to.
The newly formed “Ballast Water Equipment Manufacturers Association” (BEMA) is one option to support the industry with remaining open questions. Another option will be the IACS “Ballast working group” who revise the UR M74 to define a clear regulatory framework for the safe installation of water ballast treatment units and appropriate safety measures. In addition the industry bodies like ISO as well as NSMT in Germany had developed a framework for “efficiency control of the BWMS”, defining the operation parameter of each technology and given limits for compliance with D2 standard.
There is a challenging time in front of us and all involved parties needs to understand the BWMC in detail for a smooth implementation phase. Move forward with confidence!