

## BALLAST WATER TREATMENT

# Port-based treatment overcomes problems

**With the coming into force of the BWM Convention, the possibility of having to fit treatment systems twice has arisen due to clashes between the two Type Approval regimes: the US Coast Guard (USCG) and IMO. On the one hand, there is as yet no commercial availability of USCG-approved systems, and on the other many ship owners are sceptical about the efficacy of IMO-approved treatment systems.**

Though the two discharge standards are equivalent (until 2017 at least), there are major differences between the guidelines. In addition, water quality differs from port to port. All this means shipowners need different systems for different locations. But on a ship, only one type of ballast treatment system design is feasible. How then is it possible that a single design of treatment system can treat different water to one standard at all times?

Ship owners require a method of using treatment technologies that is flexible, movable, cheap and robust, and that can be customised for water quality at a source port to deliver the desired discharge standard. India's classification society, IRClass, proposes that port-based measures, such as treated ballast water delivery vessels – 'BWTBoats' – are the answer.

The IMO originally made provision for port reception facilities as a method of ballast water management, but subsequent reports indicated this was unviable due to the infrastructure investment needed. In 2013, though, IRClass revisited the port-based concept and tried to align it with the treatment process followed by IMO Type Approved ballast water treatment systems. Under this concept, rather than treating water at discharge, the ship will receive treated water at source in port.

BWTBoats, the treated ballast water delivering facilities, use chlorination technology. As these BWTBoats will be deployed at the ballast uptake port, the treatment system design can be customised easily for source port water quality and the discharge port standard. Ships will

need to be retrofitted with an international shore connection, and then fit a cheap TRO neutraliser unit, which may be required for neutralising excess chlorine doses at the time of discharge.

To estimate the number of vessels needed, IRClass performed voyage data analysis on 26,000 Asian ships. To cater for 18,000 regional ships without any delay in port, 2,400 BWTBoats would need to be provided in 650 ports spread among 44 Asian countries. Only ports where ballast uptake occurs would need to be supplied with BWTBoats.

With respect to the current situation, should ship owners and flag states decide unanimously to adopt a port-based facility such as BWTBoats, the following is a proposed roadmap for the effective implementation of the scheme:

- IMO Resolution. A possible draft

amendment to the B-3 regulation for implementation of port-based facilities.

- During the schedule, if BWTBoats are not available, then ships should perform ballast exchange themselves.
- Fitting of Type Approved BWT systems on BWTBoats. At the same time, ships should retrofit themselves with international shore connections.
- Tolls agreed, based on the quantity of ballast water received from BWTBoats, levied at a rate acceptable to ship owners.
- After four to five years, the guidelines are amended with reference to the outcome of the experience building phase, USCG guidelines and any other research.
- The replacement of existing treatment systems on BWTBoats in part or in full, based on operational results compared with the experience-building phase outcome.

## World's largest testing facility is expanded

**The Korean Register (KR) classification society has significantly expanded its land-based test facilities for ballast water management systems (BWMS) by opening a brand new specialist facility.**

KR has been conducting Type Approval testing of BWMS since 2004, with a consortium of six different partners. KR and its partners segregate the duties, taking into account each organisation's specialist expertise. This range of expert knowledge and high quality services was recognised when KR was accepted as the first independent laboratory in Asia to be accredited by the US Coast Guard (USCG).

Manufacturers that have already secured BWMS Type Approval from their administrations or have developed new equipment and want to secure USCG Type Approval testing are currently facing long delays because there are not enough test facilities. As a result, there is a significant bottleneck of manufacturers

awaiting USCG Type Approval testing, particularly land-based testing. To mitigate this situation, KR and one of its partners, Korea Marine Equipment Research Institute, agreed to work together to establish and to build additional test facilities to meet this demand.

The test facility at KR's headquarters in Busan, South Korea, which already offered the largest capacity for BWMS testing of anywhere in the world, has been expanded through the addition of three further units. KR's goal is to meet the growing demand for testing and certifying services from BWMS manufacturers around the world and by providing high quality specialist services to support the development of improved, more reliable systems. The new facility is fully operational for land-based testing for USCG type approval as well as Type Approval testing for other administrations under the IMO's G8 guidelines.

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