



Ballast Water Management Technology

A CALGON CARBON COMPANY

Using equipment purchased for a different vessel in their fleet, SMT and Hyde Marine were able to deliver a rapid and effective solution for the timber carrier Mobile Pearl.



Vessel Type: Bulk Carrier
Ballast Pump Capacity: 1000 m³/hr
System Model: 2 x HG700G

FIRST TAKE

A ballast pump rated for 1000 m³/hr flow will deliver 1000 m³/hr to the ballast tanks and thus I must rate my ballast water treatment system for 1000 m³/hr, right? Did you look at the pump curve?

THE REALITY

While the ballast pumps are in fact rated for 1000 m³/hr, a quick review of the pump curve showed very little head pressure at that flow rate. The Hyde GUARDIAN Gold system requires a minimum of 1.0 bar of pressure at the system inlet to operate and at 1000 m³/hr flow, the ballast pump would provide just under 2.0 bar of pressure. Adding a ballast water treatment system introduces new flow dynamics with the new pipework and equipment for the ballast water treatment system creating pressure losses in the ballast system.

THE SOLUTION

With the proposed layout of the equipment complete, the vessel owner and Hyde Marine were able to work together to estimate the pressure loss within the system to determine if the HG700G would be appropriate for the Mobile Pearl. The introduced pressure loss was enough to move along the pump curve to a significantly lower flow rate. In practice, the ballast pumps deliver roughly 700 m³/hr to the ballast tanks with the BWTS in operation. Helping matters was the flow limiting valve provided with each Hyde GUARDIAN Gold system that would prevent the BWTS from seeing flows higher than its Treatment Rated Capacity. Not only was the HG700G the right system in terms of flow rate, the installation was made easier by using slightly smaller components and piping as compared to the 1000 m³/hr unit.

