

January 16

**FOBAS Advisory:** Cold flow properties of Distillate Marine (DM) fuel oils

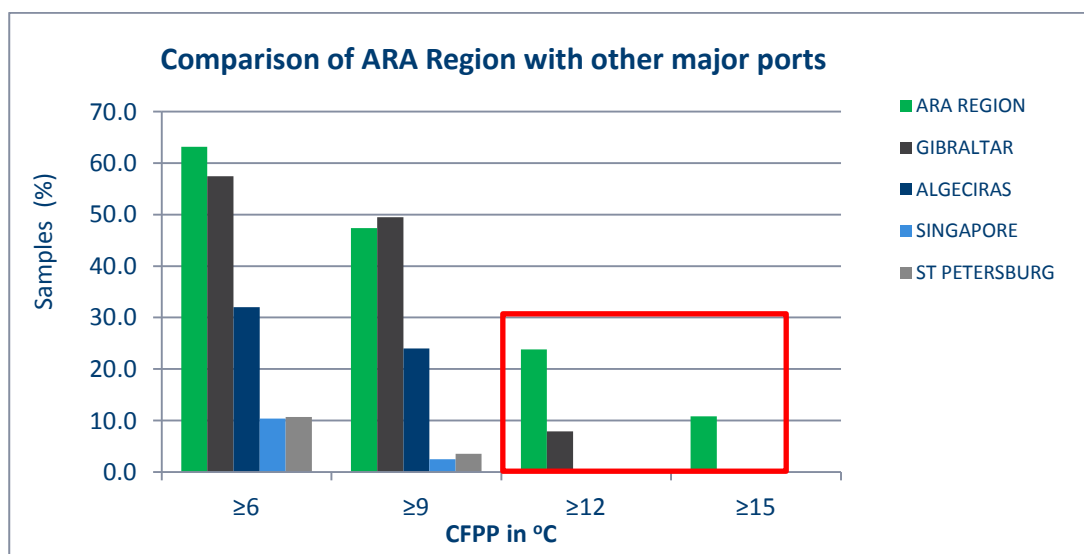
**Applicability:** Ship owners and operators

This informative bulletin has been written to highlight to our client base the operational challenges a ship may face with the cold flow characteristics of distillate marine grades (ISO 8217: DMX, DMA, DMZ and DMB) during handling and treatment.

Recently, a number of ships have reported filter blocking problems during the use of distillate fuels. Our investigations revealed a lack of fuel quality information as being a key contributory factor, which led to oversight into the best practice approach being applied to the management of distillate fuels. Crew from ships affected thought it unnecessary to send manifold drip samples for testing, assuming there are insufficient variances in distillate fuel characteristics to warrant an analysis. However, had analysis of these fuels been carried out, they would have revealed high CFPP's (Cold Filter Plugging Point) or CP's (Cloud Point) of the in-use fuels; in turn, appropriate mitigating action could have been taken.

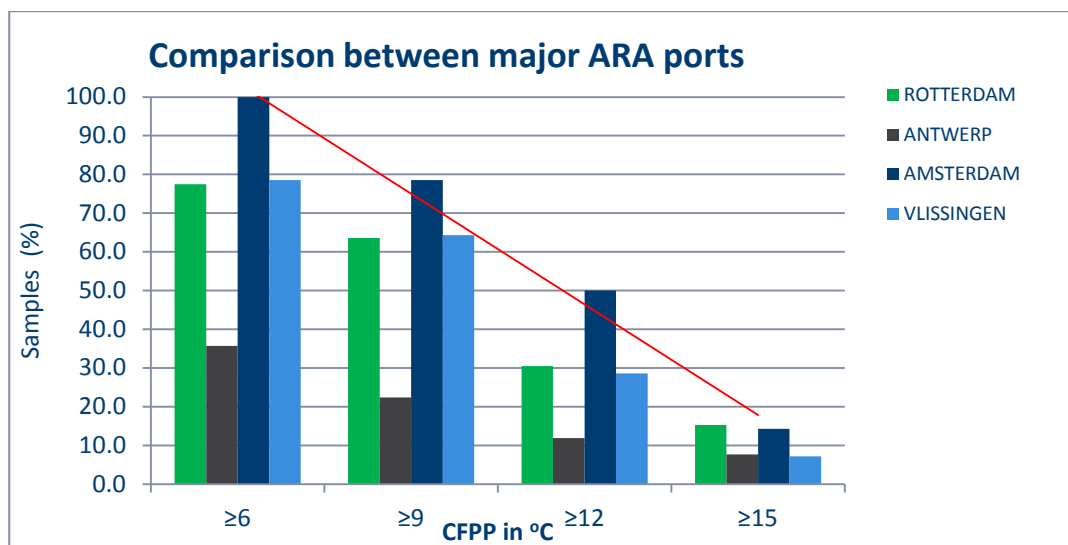
Our data indicates that the issue is particularly noticeable for the distillate fuels being supplied in the ARA (Amsterdam-Rotterdam-Antwerp) region. We regularly perform the CFPP test for our client base in addition to standard pour point analysis in order to determine the cold flow properties of the fuel. For this study, CFPP data was extracted and cross compared against major bunkering ports around the world. We found, as indicated in 'Graph 1', that a higher percentage of distillate fuel samples from ARA exhibited a CFPP of above 12 °C when compared with other ports.

**Graph 1:**



Further analysis of the data within ARA ports seems to suggest an even distribution of CFPP results as indicated in 'Graph 2'. Distillate fuels from Amsterdam showed higher CFPP results than distillate samples received from neighbouring ports.

**Graph 2:**



To minimise the probability of occurrence of operational problems during the use of distillate fuels, especially in colder climates, we suggest an operational risk assessment should be performed to identify and evaluate any fuel system limitations followed by the application of appropriate mitigating action. This includes carefully drawing manifold drip samples for analysis to gather fuel quality information, and ensuring high CFPP/CP fuels are stored and handled at correct temperatures for trouble free operation.

Further practical guidance on this matter is available through CIMAC document (section 7), for which FOBAS provided significant contributory input, available via following link.

[http://www.cimac.com/cms/upload/workinggroups/WG7/CIMAC\\_WG7\\_2015\\_01\\_Guideline\\_Cold\\_Flow\\_Properties\\_Marine\\_Fuel\\_Oils\\_final.pdf](http://www.cimac.com/cms/upload/workinggroups/WG7/CIMAC_WG7_2015_01_Guideline_Cold_Flow_Properties_Marine_Fuel_Oils_final.pdf)

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