

# THE CHARTERER

THE CHARTERERS P&I CLUB NEWSLETTER

July 2007

## BUNKER CLAIMS – TECHNICAL CONSIDERATIONS

*By Chris Fisher - Bunker Claims International Ltd*

Two issues of *The Charterer* in 2006 presented articles on the legal aspects of bunker disputes arising from Time Charters. These articles focussed on the law and obligations of the charterer with respect to the supply of bunkers suitable for ship's engines and highlighted some of the conflicts between terms and conditions in charterparty clauses and terms and conditions in bunker supply contracts. If the charterer can secure a contract with his bunker supplier that reflects his obligations under the charterparty, then he will certainly improve his chances of a full recovery from the supplier when the supplier fails to deliver fuel in full compliance with the bunker supply contract. However, contracts and legal issues are best left to lawyers and this article is of a more technical nature and addresses some fuel quality characteristics that have resulted in disputes and claims. The issues presented below are not taken from specific cases but should be seen as problem areas which can and do develop from time to time. In addition the small number of quality characteristics presented are only a few of the many that can lead to disputes and claims.

### **I. VISCOSITY**

The viscosity of a fuel tells us nothing about the overall quality; in simple terms viscosity is

a measure of the fuel's resistance to flow. Historically residual bunker fuel has been sold on a viscosity basis, with low viscosity fuels being more expensive than high viscosity. In fact, for many reasons, high viscosity fuel is more likely to have a better overall quality than a lower viscosity grade and this is slowly being accepted by shipowners. There has been a marked gain in the demand for 500cSt fuels over the last few years and a reduction in the demand for 180cSt bunkers.

Most charterparty clauses on bunkers now contain reference to viscosity and the ISO 8217 Standard, e.g. "Ship uses 380cSt fuel in accordance with ISO 8217 RMG 380".

On this basis the charterer would seek to purchase fuel exactly as stated above and most bunker suppliers will accept this quality specification in their terms and conditions of sale.

Many shipowners now routinely test bunker deliveries and if the fuel is found to be compliant with the ISO Standard it is consumed. However, it is not uncommon for the ship's taken delivery sample to show a high viscosity and a complaint swiftly follows. In some cases the owner demands that the fuel is taken off the ship. The battle then starts between charterer, supplier and owner. In this



CHRIS FISHER

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case we shall ignore the skirmish of the validity of all the samples, which is normally the first hurdle, and simply concentrate on the technical problem with high viscosity fuel.

The only real concern regarding viscosity, assuming all the other quality parameters meet the specification, is that of heating the fuel to achieve the desired viscosity at injection into the ship's engines. This is normally in the optimum range of 10-15 centistokes with an upper limit of perhaps 18 or 20 centistokes. A ship using a fuel with a viscosity of 380cSt will need to heat the bunkers to between 127C and 144C to stay within the optimum range of viscosity for injection. The ship will normally set the controller to give 13cSt at a temperature of 133C. If the viscosity of the fuel delivered is 450cSt the optimum temperature range will be 130C to 148C. In fact if the heating is kept at 133C, the injection viscosity will be 14cSt, still within the optimum range. If the delivered viscosity is 500cSt, the optimum injection temperature range will be 132C to 150C. If the temperature of 133C is maintained the injection viscosity will be 15cSt, still in the optimum range and well below the upper limit. This tells us that a ship which is capable of using 380cSt fuel and normally heating bunkers to around 133C for injection can keep the same fuel temperature and consume fuel with a delivered viscosity of 500cSt. So, although the specification may call for an upper limit on viscosity, if this is exceeded it may still be possible for the ship to consume the fuel without problems if it has sufficient heating capacity.

## **2. DENSITY**

The charterer should be interested to know the correct density of fuel he has purchased. The density provided on the bunker delivery receipt is sometimes overstated, which means that the quantity delivered has also been overstated. As an example, if 1000 tons is ordered the bunker receipt may show the

volume to be 1009 cum and the density 991.0. The calculated weight will then be 1000 tons. However, if the density on a representative sample is only found to be 985.0, then the weight delivered will only have been 994 tons, a shortage of 6 tons.

Density is also of technical importance. Some ship's purifiers can only treat fuels if the density is below 991.0. However, many ships built in the last 5 years or so have purifiers that can treat fuels with a density up to 1010.

High density fuels are not that desirable as they tend to have lower energy and can exhibit poor ignition and combustion properties; occasionally the density limit of 991.0 is exceeded which is a problem for older vessels, but may not be serious for newer vessels.

## **3. IGNITION QUALITY**

In recent years the number of claims concerning the ignition quality of residual fuels appears to have increased. Although there is no strict rule, it is recognised that fuels with high density and low viscosity tend to exhibit worse ignition and combustion characteristics than those with higher viscosity and lower density. However, this does not mean that high density/low viscosity fuels will be problematic for all ship's engines. The vast majority of large ships, tankers, container vessels and bulk carriers utilize slow speed diesel engines for their main propulsion and these are generally fairly tolerant to fuels with marginal ignition and combustion qualities. Slow speed engines built in the last ten years or so, are also more tolerant than older engines. In general, ignition and combustion problems are more likely to occur when fuel is consumed in medium speed engines, and this may be exaggerated when these engines are operated on low power. The engine maker's operating manual should give advice on running at low power (less than 60% full output) for long periods of time. Older, medium speed engines can also suffer more than newer models. Many ships now consume

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the same residual fuel in their main and auxiliary engines (generators), and the auxiliary engines operate at higher speed than the main engines, making the generators more prone to problems with poor or marginal ignition and combustion qualities.

For some 25 years or so, a mathematical formula has been used to predict the ignition quality of residual fuels; this being the Calculated Carbon Aromaticity Index or CCAI.

Some owners include an upper CCAI limit in charterparty clauses. CCAI is not included in ISO 8217 as a specified limit, therefore an owner has to add this to his fuel quality requirement. Typical limits for CCAI are 850 and 860. The lower number suggests a better ignition quality. Although CCAI is an imperfect tool, limiting the CCAI value does provide a degree of protection.



As an example, the CCAI of a 180cSt fuel with a density at the ISO 8217 limit of 991.0, has a CCAI of 860, and if the same density is maintained but the viscosity reduced to 100cSt, then the CCAI rises to 867, which may be a problem for some engines. This shows that low viscosity is not a good indicator of overall fuel quality.

The shipowner can therefore limit the CCAI by either requesting a maximum CCAI, or stating a minimum viscosity in combination with a maximum density. The charterparty clause may then read:- Fuel to be supplied to be compliant with ISO RME 180 with a maximum viscosity of 180cSt. If fuel is supplied with density at the limit of 991.0, then the

viscosity shall not be less than 175 cSt, nor shall the CCAI be above 860.

During the last 10 years or so much research has been carried out on ignition and combustion quality of residual fuels; this has involved engine tests and simulated laboratory tests in combustion rigs. The research thus far does tend to show that not all fuels with low CCAI have good ignition and combustion characteristics, and some fuels with high CCAI

can have reasonable ignition properties. However, most problems occur when fuels have a combination of high density and low viscosity, which suggests that CCAI has some merit.

If a charterparty calls for a maximum CCAI, then the charterer should ensure that his contract with the supplier also includes this limit. Some bunker suppliers will not guarantee a CCAI limit, hence the charterer

may have to shop around, and perhaps pay a premium to satisfy the charterparty requirement.

As CCAI is not a perfect tool it could be possible that a fuel is delivered with CCAI in compliance with the charterparty, but the shipowner may claim that he experienced problems with ignition and combustion of the fuel, resulting in engine damage. Until fairly recently it has been very difficult for an owner to provide sufficient evidence to demonstrate that a particular fuel has caused engine damage solely on the basis that it had poor ignition quality, especially if the CCAI limit was met.

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However, in 2006 a new test method IP 541/06 was published entitled “Determination of ignition and combustion characteristics of residual fuels – Constant volume combustion chamber method”.

This test method, although not part of the ISO 8217 International Fuel Standard, does provide some further evaluation of the ignition and combustion properties of residual fuel, and is being used by some shipowners when they experience engine problems that appear to be fuel related, but the fuel tested has been found to be compliant with the specification.

There are probably only about 20 of these test rigs in commercial use around the world and in general most fuel suppliers are not using this method as a quality control tool. Hence it is possible that a shipowner may receive a fuel which is fully compliant with all the quality requirements of the charterparty, including CCAI but, due to engine problems may claim against the charterer, based upon a poor result obtained from test method IP 541/06.

At present shipowners are unlikely to include in the charterparty, clauses regarding ignition quality limits based upon the new IP method, because they understand that bunker suppliers will be unwilling to accept such limitations in their bunker supply contracts. However, shipowners may well use this method to demonstrate the supply of poor quality fuel, and this could leave the charterer exposed to a settlement with owners, but with no opportunity to recover any damages from their bunker supplier.

There is little a charterer can do to protect himself with respect to purchasing a fuel which later demonstrates poor ignition quality; certainly no supplier will provide a test result according to IP 541/06 prior to delivery of the fuel, and the supplier will probably not agree to accept a quality limit based upon IP 541/06 in their bunker sale contract.

In general, charterers should be particularly careful when purchasing 180cSt bunkers as this relatively low viscosity grade is more likely to exhibit poor ignition and combustion qualities

than 380 cSt or higher viscosity grades. Also, charterers should remember that medium speed engines are less tolerant than low speed engines.

## **4. LOW SULPHUR FUELS**

To comply with environmental legislation, Marpol Annex VI, ships are restricted on the level of sulphur that the fuel may contain. On the high seas this is 4.5% and in special areas 1.5%. It can be seen that some of the low sulphur fuels (less than 1.5%) that are currently being supplied to ships have a low viscosity combined with high density. This is a result of the selection of blend components used to achieve the lower sulphur target.

This means that some of these fuels could have poor ignition quality and hence more need for CCAI control.

Routine fuel quality testing on representative bunker delivery samples, taken at the time of delivery, can benefit both the owner and the charterer. Firstly, the charterer will quickly receive information on the quality of the product supplied, and will be able to notify the supplier well within any time bar constraints if the product fails to meet the specification requirements. Secondly, the owner and charterer will be in a position to avoid using any off specification fuel which may otherwise cause severe engine damage and may avoid voyage delays.

## **FURTHER READING & REFERENCE**

Bunkers – An analysis of the practical, technical and legal issues. By Christopher Fisher & Jonathan Lux. ISBN 0-9548097-0-X. Published by Petrosport Ltd.

# UNDERWRITING REVIEW

By *Gavin Ritchie*

## CHARTERERS P&I CLUB CONTINUES TO GROW

The Charterers Club has experienced further strong growth in both the 2005 and 2006 underwriting years; the Club insures 170 actively chartering clients and provides cover to more than 8,000 vessels annually. Premium income for the 2007 policy year is anticipated to be between USD 22 to USD 24 million (up from USD 16.5 million in 2004).

The core of this growth has been driven by activity in the dry bulk and general cargo markets. The phenomenal rate of economic growth in Asia and the Far East has been a major factor, although it is pleasing to note that the Club is making in-roads into other markets as well, most notably Australia, South America and the Persian Gulf. The Club retains a significant position in the European market place and has continued to expand its European portfolio, albeit at a slower rate than in some of the higher growth markets.

The continued 'bull' run in shipping has brought a fresh set of challenges. High freight rates, rocketing commodity prices and a weak dollar are all having a very adverse impact on the value of claims, which in turn means it is more likely that a claim will be pursued against the charterer.

The Club has experienced a sharp escalation in the frequency of claims relating to vessel damage, most notably from unsafe port/berth claims or allegations of engine damage from the supply of off spec bunkers.

The strength of the current freight market is also creating an imbalance in the owners favour when negotiating charter party terms;

for example the words "and responsibility" in clause 8 of the NYPE rarely appear nowadays and owner friendly stevedore damage clauses have overtaken charterer friendly clauses. Voyage forms are not immune to the difficulties and many charterers are now finding themselves having to warrant the safety of ports as well as berths.

In the marine liability market rates have been steadily increasing over the last five years, accompanied by increased deductibles and other protective measures; however, these changes have been applied principally to correct historical losses and imbalances and do not take account of the true increased exposure many clients now face as part of their day to day trading and operations.

Professionals in our industry agree that a charterers risk and exposure is not only on

the increase but has fundamentally changed in the last decade. Over the last five years The Club has endeavoured to stay ahead of the game by implementing a cautious underwriting policy focused on building and retaining a strong and diverse portfolio and offering our clients stability and quality.

During the last couple of years the Club has made every effort to make sure that the quality of the service that it provides keeps pace with its growth. Clients perception of the 'added value' is fundamental in support of a successful underwriting policy. The market for this type of cover remains very competitive and a major factor in the success of The Charterers Club is its unique position as a long standing and dedicated charterers vehicle.



GAVIN RITCHIE

# INTER-CLUB AGREEMENT COMPARATIVE TERMS

The Inter-Club Agreement was originally designed and introduced in 1970 as a mutual agreement between the International Group of P&I Clubs as to how sums paid in settlement of certain types of cargo claims should be apportioned between owners and charterers using the New York Produce Exchange form of time charterparty.

It was subject to minor revision in 1984 and in 1996 was significantly amended and restructured. The accompanying table sets out the principal changes between the different ICA forms where clause 8 of the NYPE form is unamended and also highlights the main uncertainties which remain.

	ICA 1996	ICA 1984	ICA 1970
Relationship to previous ICA?	Replacement	Update	N/A
Applicable c/p form(s)?	NYPE '46, '81 and '93 forms and amendments thereto	NYPE form	
Applicable to claims arising under?	Contracts of carriage	Bills of Lading	
Claims required to be paid?	Yes	Not specified	
Time limit for notification?	24 months, alternatively 36 months	Two years	None
How are claims apportioned?	Actual fact basis	Not specified	
Unseaworthiness?	Prima facie 100% Owners'	100% Owners'	
Errors of navigation/management?	100% Owners'	Not specified	
Stowage and Handling?	Prima facie 100% Charterers'	100% Charterers'	
Pilferage?	100% Responsible Party	50% Owners' 50% Charterers'	
Condensation?	Not specified but see 'other claims'	50% Owners' 50% Charterers'	
Other claims including delay?	50% Owners' 50% Charterers'	Not specified	
Customs fines and dues including?	Yes	No	
Costs included?	Incurred by claimant and incurred in defending claim	Incurred by claimant	
Costs incurred in making claim under ICA included?	No		
Interest included?	Charged by claimant	No	
Salvage contributions paid by cargo claimants included?	Not specified		
Limitation of liability?	Not specified		

## Emma Rios-Ternero – JOINS THE CLUB



EMMA RIOS-TERNERO

We are very pleased to welcome Emma Rios-Ternero who joined the claims department in January 2007. Emma is no stranger to The Charterers Club having started work with us in 1998 after obtaining a LLM in Shipping Law at the London School of Economics. Having completed nearly two years she left to join a leading London firm of maritime solicitors and subsequently gained further experience in the shipping departments of two other law firms before rejoining The Club.

Emma, who is a dually qualified Spanish and English solicitor, joins The Club's claims department at a time when business is expanding and her experience will be invaluable to the membership in both P&I and Defence matters.

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## BUNKERING ISSUES – FROM A CHARTERERS PERSPECTIVE

Chris Fishers's contribution to this newsletter, "Bunker Claims – Technical Considerations" is the last series of three articles published in *The Charterer* since 2005 highlighting problems (and hopefully providing some solutions) arising from the alleged damage to the vessel due to poor quality bunkers.

The two previous articles by John Blacker (Ross & Co.) and Julian Clark (Holman Fenwick & Willan) concentrated on the legal aspects of exposure to claims by shipowners arising out of bunker supply and remedies at the time charterer's disposal.

The series of articles were commissioned by The Club partly in response to the increase in claims for vessel damage by bunkers and partly as the ongoing claims prevention policy and service support for the membership. But such has been the interest that The Club has decided to go one step further and incorporate the three articles into one booklet which will also contain updated information on the subject together with other contributions from The Club's Management.

The booklet, which is free, will be available later this year and a copy will be automatically sent to every client but non members wishing to obtain a copy should complete the application form on The Club's website [www.else.co.uk](http://www.else.co.uk)



JOHN BLACKER



JULIAN CLARK



CHRIS FISHER

# SECURITY

It is just over twenty years ago since The Club first opened its doors for business and it is pleasing to note that several of the clients who joined The Club in its earlier years are still with us today. Clients of long standing will remember that The Club demutualised at the end of 1998, becoming a fixed premium vehicle offering policies underwritten 100% at Lloyd's. The Lloyd's brand is one of the strongest in the international marine insurance market, particularly in the highly specialised marine liability sector. In fact the International group of 'IGA' owners P&I clubs are themselves extensively and collectively reinsured at Lloyd's under the IGA excess of loss reinsurance contract, one of the largest marine liability reinsurance contracts in the World. Lloyd's, which has an S&P rating of A+(Strong), has a 300 year tradition of providing innovative insurance solutions to the maritime industry. The Charterers P&I Club works very closely with the major marine liability underwriters at Lloyd's and from the beginning of 2007 all policies issued by The Club will be underwritten by Syndicates 2623 and 623 at Lloyd's, managed by Beazley Furlonge, a wholly owned subsidiary of Beazley Group Plc.

The underlying stability of The Club is a very important consideration whenever The Club decides to put up security on behalf of one of its clients in order to release assets from arrest, or the threat of arrest. The Club maintains various facilities in order to be able to furnish security promptly. Many of these facilities have been in place for several years and have been tried and tested on many occasions. In practice a letter of undertaking is often all that is required, because the Lloyd's brand is regarded as acceptable security in virtually all jurisdictions that accept letters of undertaking from any of the owners P&I clubs. Recent months have seen a sharp increase in clients having their assets seized by the ease with which claimants can currently evoke the so called "RULE B ATTACHMENTS" in respect of US dollar funds being cleared through the banking system in New York. We will be covering this topic in greater depth in forthcoming circulars and future editions of *The Charterer*.

Charterers Club clients are buying the security of a quality brand with an excellent rating, better in fact than some of the IGA P&I Clubs. Lloyd's security combined with the specialist claims handling service tailored purely to handle problems from a charterers perspective is our unique selling point - an unbeatable combination in our view.

## CLUB CORRESPONDENTS

The next edition of *The Charterer* will be devoted to matters concerning The Club's correspondents and so if you have a view which you would like to express or a story to relate we would be pleased to hear from you. Ideally contributions should relate to matters from a charterers perspective but all copy will be considered. Each piece together with any photos should be no more than 350 words and e-mailed to the editor at [knorman@else.co.uk](mailto:knorman@else.co.uk) by August 7th 2007.

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Michael Else and Company Limited, 65 Leadenhall Street, London EC3A 2AD

Tel +44 20 7702 3928 Fax +44 20 7702 3993

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