Maritime Knowledge Shipping Session 29

REFRIGERATED CARGO CLAIMS AND UNDER WRITING
THE ROLE OF THE SURVEYOR
And
Case History

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This presentation has been prepared and is being delivered in my capacity as an Independent Marine Consultant, and opinions given do not necessarily reflect the views of London Offshore Consultants Group Ltd.
OVERVIEW

- Surveyor or Consultant?
- Refrigerated Cargoes.
- A case history
In the land of the blind,
a one eyed man
can charge what he likes!
SURVEYOR OR CONSULTANT?

- There are no formal professional standards for marine surveyors or consultants.

- Most surveyors and consultants come from a seagoing background, either Master Mariners or Chief Engineers, and in many cases, lesser qualifications.

- A surveyor, someone who inspects, measures, assesses and reports.

- A consultant, someone who offers advice or a service based on his knowledge.
25 Years ago, the Consultancy I worked for at the time, determined the requirements for employing a Master Mariner or Marine Engineer were persons who had a minimum of 5 years experience in command or as Chief Engineer. It was further determined that it was unlikely such a person would be less than 40 years of age.

Over the past 40 something years, there has been a huge swing for owners to employ seafarers from lower cost based countries.

Training of seafarers has become more class room based and fast track. It is not unheard of to find Master or Chief Engineers who have been at sea for less than 10 years.
In 2000, there was a shortage of 16,000 officers and in 2010, the shortage had increased to 46,000. The current labor market of seafarers has a significant shortage of senior officers that are educated and well trained.

A recent study has shown that 72% of seafarers will stop sailing before the retire. Just under 25% of them will stop after 1 – 2 years and around 45% between 5 – 10 years.

What has that to do with the *One eyed man* you might ask.
SURVEYOR OR CONSULTANT?

- Everything – Not just Survey Companies but all marine related shore activities.

- There is a shortage of experienced marine personnel coming ashore.

- This is ultimately affecting the quality and experience of some surveyors, especially those who set up business on their own, or join small companies who do not have the resources to provide additional training.

- Unfortunately, training and updating of surveyors comes at a price, a price that some clients are unwilling to pay.

- However, making the right choice can and does save Underwriters money.
REFRIGERATED CARGOES

- Today refrigerated cargoes move in substantial quantities.
- Specialist vessels wholly dedicated to the carriage of refrigerated cargoes under a variety of temperatures.
- Conventional break bulk cargo may be handled around 15 times from leaving the producer to arriving at the market.
- The introduction of reefer containers has added outstanding value in ensuring good turn-out of cargo under refrigerated conditions.
- The use of reefer containers protects the cold chain from producer to market.
- Notwithstanding, for the foreseeable future refrigerated cargo will continue to be carried in specially designed, pallet efficient, reefer ships.
REFRIGERATED CARGOES
REFRIGERATED CARGOES
REFRIGERATED CARGOES
### REFRIGERATED CARGOES

**How big is the global reefer trade?**

*Estimated perishable reefer cargo modal split, 2012*

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Non-container (%)</th>
<th>Container (%)</th>
<th>Non-container (million tonnes)</th>
<th>Container (million tonnes)</th>
<th>Total (million tonnes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bananas</td>
<td>53.0%</td>
<td>47.0%</td>
<td>8.38</td>
<td>7.43</td>
<td>15.81</td>
</tr>
<tr>
<td>Citrus</td>
<td>47.0%</td>
<td>53.0%</td>
<td>2.61</td>
<td>2.94</td>
<td>5.54</td>
</tr>
<tr>
<td>Deciduous</td>
<td>32.0%</td>
<td>68.0%</td>
<td>2.59</td>
<td>5.51</td>
<td>8.1</td>
</tr>
<tr>
<td>Exotics</td>
<td>40.0%</td>
<td>60.0%</td>
<td>1.46</td>
<td>2.19</td>
<td>3.65</td>
</tr>
<tr>
<td>Fish/seafood</td>
<td>39.0%</td>
<td>61.0%</td>
<td>6.12</td>
<td>9.57</td>
<td>15.69</td>
</tr>
<tr>
<td>Meat/poultry</td>
<td>22.0%</td>
<td>78.0%</td>
<td>5.06</td>
<td>17.92</td>
<td>22.98</td>
</tr>
<tr>
<td>Dairy</td>
<td>8.0%</td>
<td>92.0%</td>
<td>0.15</td>
<td>1.72</td>
<td>1.87</td>
</tr>
<tr>
<td>Other</td>
<td>5.0%</td>
<td>95.0%</td>
<td>0.94</td>
<td>17.83</td>
<td>18.77</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>29.5%</strong></td>
<td><strong>70.5%</strong></td>
<td><strong>27.31</strong></td>
<td><strong>65.11</strong></td>
<td><strong>92.42</strong></td>
</tr>
</tbody>
</table>

At an average 24 tonnes per 40ft box, this equates to a global cargo pie of **5.4 million teu** (2.7 million feu)

At an average 22 tonnes per 40ft box, this equates to a global cargo pie of **5.92 million teu** (2.96 million feu)

Meat/poultry is the largest commodity group (24.9%), followed by bananas (17.1%) and seafood (17%)
REFRIGERATED CARGOES

Global reefer cargo growth to 2017

Projected seaborne perishable reefer trade

<table>
<thead>
<tr>
<th>Year</th>
<th>Million Tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>85</td>
</tr>
<tr>
<td>2008</td>
<td>89</td>
</tr>
<tr>
<td>2009</td>
<td>70</td>
</tr>
<tr>
<td>2010</td>
<td>80</td>
</tr>
<tr>
<td>2011</td>
<td>90</td>
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<tr>
<td>2012</td>
<td>85</td>
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<tr>
<td>2013</td>
<td>95</td>
</tr>
<tr>
<td>2014</td>
<td>100</td>
</tr>
<tr>
<td>2015</td>
<td>105</td>
</tr>
<tr>
<td>2016</td>
<td>110</td>
</tr>
<tr>
<td>2017</td>
<td>120</td>
</tr>
</tbody>
</table>

Grand Total

% growth per annum

LOC
MARINE & ENGINEERING CONSULTANTS
Top 10 critical areas of occurrence that lead to cargo claims arising from reefer cargoes:

- Containers off power and therefore off refrigeration for extended times;
- Wrong settings caused by incorrect information;
- Failure to monitor properly and correct faults or wrong settings;
- Poorly pre-cooled or overcooled cargo;
- Cargoes with insufficient practical storage life;
Top 10 critical areas of occurrence that lead to cargo claims arising from reefer cargoes:

- Badly stowed containers impeding air flow – many with low quality packaging;
- Excess fresh air ventilation for “live” cargoes thereby causing evaporators to ice up;
- Incorrect booked cargo leading to operational and commercial problems;
- Fahrenheit or Celsius temperatures interchanged or wrongly converted.
REFRIGERATED CARGOES

- So who best to deal with such problems and investigate the cause?

- Most certainly someone with experience of reefer containers, a Reefer Engineer or Marine Engineer.

- A Master Mariner? – Could be a case of a One eyed man, depending on his qualifications and experience.
What about the cargo inside the reefer container?

The cargo could be:

- Well just take a look around the Cold Storage at the fresh fruit and vegetables, dairy products, frozen meat, fish and vegetables, chilled meat and fish - an endless list of commodities all requiring different storage temperatures and conditions. Most of these items will have been transported in reefer ships or reefer containers.

- It should also be remembered that many pharmaceutical products are also carried in reefer containers.

- So who is best to determine what can be done with the cargo to minimise Underwriters’ exposure?
A CASE STUDY

CEPHALOPODS!!

- Hands up who knows anything about Cephalopods (Don’t say anything if you do).

- Hands up who knows what a Cephalopod is? (Again don’t say anything if you do).
Much the same questions were put to 10 different surveyors who were appointed on behalf of 10 different cargo consignees one evening in Malaysia.

One or two of the surveyors had “Captain” on their card, one or two “Engineer Surveyor” and others simply “Surveyor” or “Managing Director” etc.
A CASE STUDY

- I will give you a couple more clues.
- Chumi Chumi?
- Sotong?
A CASE STUDY

- Yes – We are looking at the humble squid.
A CASE STUDY
A CASE HISTORY

“MAUNAKEA”

And

The 5,303.476MT Of

CEPHALOPODS!!
A CASE HISTORY

- “MAUNAKEA” a 6,392 deadweight refrigerated cargo vessel.
- Vessel had 4 cargo holds each having two insulated compartments, the lower compartment having two decks.
- Loaded with 296,859 blocks (5,303.476 MT) of frozen squid.
- Cargo spaces cooled down, and temperatures maintained by means of a screw compressor and chilled air circulation system. Each cargo compartment provided with two sets of air coolers with the chilled air distributed from floor ducts and re-circulated.
A CASE HISTORY

- Loaded with 296,859 blocks (5,303.476 MT) of frozen squid.
- Value of the cargo approximately USD 8 million
- The 5,303.476 MT of cargo represented 1/6th of the annual import of squid into Korea.
A CASE HISTORY
A CASE HISTORY

- “MAUNAKEA” departed Berkeley Sound, Falkland Islands, South Atlantic, on 3 April, 2006 bound for Pusan, South Korea.

- On the 29 April, at about 08:30, main engine turbo charger disintegrated, which led to a fire in the upper engine room, eventually spreading to the accommodation and after part of No. 4 cargo hold.

- Crew abandoned the vessel.

- Vessel’s position about 420 nautical miles South West of Bandar Aceh.
A CASE HISTORY
A CASE STUDY

- First tug arrived on scene on the 2 May at about 02:00, by this time the fire in the accommodation had burnt itself out, but smoke still emanating from No. 4 cargo hold.

- Salvage team and additional salvage tug arrived at casualty on afternoon of 3 May and connected a portable generator to the cargo hold ventilation system.

- 5 May, a quantity of dry ice had been transferred to the casualty and placed in way of the cargo hold air circulation fans.

- 6 May, casualty arrived off Penang to await arrival of a chartered reefer vessel for a ship to ship transfer of cargo.

- 7 May, cargo barge alongside with a tank of CO₂ which was pumped into No. 4 cargo hold to extinguish the fire still smouldering.
A CASE STUDY
A CASE STUDY

- Chartered reefer vessel refused to accept cargo, because it was distressed.

- 8 May casualty taken to Port Klang anchorage.

- There then ensued many meetings to get permission to bring the vessel into port and to decide on the fate of the cargo.

- Attempts were made to secure storage in the various cold store facilities, but word had spread that the cargo had been without refrigeration for two weeks, and the facilities declined to accept the cargo.

- A contractor was engaged to rebuild and commission the vessels reefer compressors, and liquid nitrogen was injected into the cargo holds.
A CASE STUDY
A CASE STUDY

- All this time neither consignees or their underwriters showed any interest in the cargo.

- Salvors and Owner’s P&I Club, appointed two food scientists who specialised in seafood products.

- Time to think out of the box!

- While talks continued with the cold storage facilities, now with the food scientists engaged, we also looked at:
A CASE STUDY
A CASE STUDY

- Hiring the ice skating rink at Sunway Lagoon, tenting in the area and using specialised stand alone chiller units.

- Luckily this option was not needed as the food scientists managed to persuade one cold storage facility that the cargo was sound, word spread and we managed to find sufficient space in cold storage facilities to accommodate the contents of 3 of the 4 cargo holds. Comprising a total of 218,676 blocks.

- Unfortunately, much of the cargo in hold No. 4 had been tainted by smoke from what had been a fire in the insulation. This comprised 77,659 blocks, all of which were discharged into 58 x 40ft freezer units.
A CASE STUDY
So what happened?

The 10 surveyors acting on behalf of 10 of the 14 Consignee’s showed little interest, other than all insisting to be able to take their own core temperatures of each block. The P&I Club agreed on a joint approach to minimise the time needed transferring the cargo between hold to freezer truck. Attending surveyors were told would have to accept this methodology for the benefit of the cargo.

C Consignees rejected the cargo based on the core temperatures recorded.

Salvors managed to keep the cargo temperatures to below -12°C (I am informed that this is the temperature at which microbes can start to live).
A CASE STUDY

- It took 44 days, from the day of the fire until the last of the cargo was returned into cold storage to a temperature of -25°C.
- From the packaging, it was noted that the squid had a storage life of 24 months.
- From daily records maintained, and from data used by the two independent food scientists, it was demonstrated that the squid from hold Nos. 1, 2 and 3, was still fit for human consumption and that the storage life had only been reduced by about two weeks.
- Armed with this information, the cargo from hold Nos. 1, 2 and 3 was sold on the local market at the then current market price.
A CASE STUDY

- A buyer was eventually found for the tainted squid from No. 4 hold, at something like 40% of the market value.
- Without a doubt, the advice given, and records kept by the two independent food scientists, helped reduce what would otherwise have been a significant claim.
Moral of the Story?

In the land of the blind
make sure you find a man with

Two Eyes

Thank You!