Large ships, salvage and Landmark

- Modified, with permission, from a presentation given at IUMI 2012 by Pete Townsend of Swiss Re
Growth of containerships

<table>
<thead>
<tr>
<th></th>
<th>Length</th>
<th>Draft</th>
<th>TEU</th>
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</thead>
<tbody>
<tr>
<td>First (1956-1970)</td>
<td>135 m</td>
<td>&lt; 9 m</td>
<td>500</td>
</tr>
<tr>
<td></td>
<td>200 m</td>
<td>&lt; 30 ft</td>
<td>800</td>
</tr>
<tr>
<td>Second (1970-1980)</td>
<td>215 m</td>
<td>10 m</td>
<td>1,000</td>
</tr>
<tr>
<td></td>
<td>33 ft</td>
<td></td>
<td>2,500</td>
</tr>
<tr>
<td>Third (1980-1988)</td>
<td>250 m</td>
<td>11-12 m</td>
<td>3,000</td>
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<tr>
<td></td>
<td>36-40 ft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fourth (1988-2000)</td>
<td>275 m</td>
<td>11-13 m</td>
<td>4,000</td>
</tr>
<tr>
<td></td>
<td>305 m</td>
<td>36-43 ft</td>
<td>5,000</td>
</tr>
<tr>
<td>Fifth (2000-2005)</td>
<td>335 m</td>
<td>13-14 m</td>
<td>5,000</td>
</tr>
<tr>
<td></td>
<td>43-46 ft</td>
<td></td>
<td>8,000</td>
</tr>
<tr>
<td>Sixth (2006-)</td>
<td>397 m</td>
<td>15.5 m</td>
<td>11,000</td>
</tr>
<tr>
<td></td>
<td>50 ft</td>
<td></td>
<td>14,500</td>
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</table>
Container Fleet Development

As of January 1st, 1986 – 2009 (Index 1986 = 100)
Container Fleet Development

As of January 1st, 1986 – 2009 (Index 1986 = 100)
MSC Fabiola enters San Francisco bay
21st March 2012
How big......?
Fuel Consumption Tons per Day

- Fuel Consumption (ton/day)
- Service Speed (knots)

- 3000teu
- 5000teu
- 8000teu
- 10000teu
- 18000teu
Problem?
What problem?
APL Panama (Ensenada - Christmas Day 2005)
APL Panama (Ensenada - Christmas Day 2005)

- 4,038 TEU
- 1,805 containers on board
- 52,250 dwt
- LOA 261 metres
- Breadth 32.25 metres (13 containers across)
- Draught 12.52 metres
APL Panama (Ensenada - Christmas Day 2005)

- Grounded Dec 25th 2005 - Refloated March 10th 2006
- Almost no damage
- 1805 containers on board - Approx. 1,300 discharged
- 1,445 cargo interests - Approx. 1,600 adjuster man hours
Realistic Disaster Scenario
Comparisons

APL Panama

DWT: 52,250
TEU across: 13
TEU: 4,038
(TEU 1,805 on board)
1,445 cargo interests
1,600 adjuster man hours

Not completely adjusted 5 year later

Ultra Post Panamax

DWT: 157,000
TEU across: 22
TEU: 15,000
(say 75% laden – 11,250 o/board)
9,006 cargo interests
9,972 adjuster man hours
5 man years to adjust!!

Help!!!!!

USD 68, million GA
USD ??? million GA
<table>
<thead>
<tr>
<th>Year</th>
<th>New cases</th>
<th>Ship</th>
<th>Cargo</th>
<th>Other</th>
<th>Total</th>
<th>% Award/values</th>
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</thead>
<tbody>
<tr>
<td>2001</td>
<td>108</td>
<td>$50.9</td>
<td>$107.6</td>
<td>$2.5</td>
<td>$161.0</td>
<td>16.7</td>
</tr>
<tr>
<td>2002</td>
<td>104</td>
<td>$81.5</td>
<td>$173.3</td>
<td>$6.6</td>
<td>$264.4</td>
<td>14.2</td>
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<tr>
<td>2003</td>
<td>89</td>
<td>$72.8</td>
<td>$94.0</td>
<td>$2.3</td>
<td>$169.1</td>
<td>14.7</td>
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<tr>
<td>2004</td>
<td>91</td>
<td>$47.1</td>
<td>$93.9</td>
<td>$3.9</td>
<td>$144.9</td>
<td>9.9</td>
</tr>
<tr>
<td>2005</td>
<td>109</td>
<td>$64.5</td>
<td>$119.8</td>
<td>$1.3</td>
<td>$181.6</td>
<td>7.8</td>
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<tr>
<td>2006</td>
<td>80</td>
<td>$53.7</td>
<td>$31.6</td>
<td>$0.5</td>
<td>$85.8</td>
<td>13.6</td>
</tr>
<tr>
<td>2007</td>
<td>107</td>
<td>$172.6</td>
<td>$210.6</td>
<td>$9.5</td>
<td>$392.7</td>
<td>14.8</td>
</tr>
<tr>
<td>2008</td>
<td>83</td>
<td>$203.8</td>
<td>$92.0</td>
<td>$3.6</td>
<td>$299.4</td>
<td>7.1</td>
</tr>
<tr>
<td>2009</td>
<td>122</td>
<td>$161.2</td>
<td>$401.0</td>
<td>$8.9</td>
<td>$571.1</td>
<td>20.4</td>
</tr>
<tr>
<td>2010</td>
<td>111</td>
<td>$26.9</td>
<td>$37.7</td>
<td>$1.3</td>
<td>$65.9</td>
<td>14.4</td>
</tr>
</tbody>
</table>
Realistic Disaster Scenario (courtesy of Rogers Wilkin Ahern)

Assumptions:
- 18,000 teu capacity containership, fully laden
- Average container value $30,000
- Cargo value - $540,000,000
- Ships sound value assessed at $190,000,000
- Lloyds’ Open Form Salvage awards 15-20%
Realistic Disaster Scenario (courtesy of Rogers Wilkin Ahern)

- Overall venture value $730,000,000 +/-
- LOF 15% = $109,500,000 (+ interest and costs)
- With Additional GA sacrifice and expenditure a total of $200,000,000 or more could be anticipated
  - Plus hull PA?
  - Plus cargo PA?
  - Removal of wreck?
It’ll never happen though........
CMA CGM Libra grounded off Port of Xiamen

18th May 2011
UASC Al Rawdah grounded off Batu Berhanti, Indonesia

19th June 2011
MSC Luciana engine trouble and grounded leaving Antwerp

19th Sept 2011
Rena grounded off New Zealand

5th Oct 2011
Rena as at 5th April 2012
5th April 2012 – 6 months after the casualty

- Big date
- 547 above deck, 821 underdeck
- 1,368 containers on board
- 684 in total removed
- 50%
- Removal rate 1-2 per day
Bareli Grounded off Fuqing, China

15th March 2012
Bareli Grounded off Fuqing, China

- 2004 built
- 42,300 dwt
- 3,091 teu capacity
- 1,913 containers on board
Buenos Aires Express – fire off Brazil

26th February 2012
Buenos Aires Express

- 2000 Built
- 68,122 dwt
- 5,447 teu capacity

- Fire in engine room
- Reefer cargo expected to be a total loss
- 20 day tow commenced 25\textsuperscript{th} March – a month after casualty
Vale Beijing - 7\textsuperscript{th} December
<table>
<thead>
<tr>
<th>Question</th>
<th>Estimate</th>
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</thead>
<tbody>
<tr>
<td>Time to complete cargo transfer?</td>
<td>50 days</td>
</tr>
<tr>
<td>PA Claim?</td>
<td>USD 5 million approx</td>
</tr>
<tr>
<td>GA?</td>
<td>USD 32 million approx</td>
</tr>
<tr>
<td>Ships proportion to GA?</td>
<td>USD 22 million approx</td>
</tr>
<tr>
<td>Claim to hull underwriters?</td>
<td>USD 27 million (of which &lt; 20% PA)</td>
</tr>
</tbody>
</table>
Costa Concordia – right way up
## Comparison

<table>
<thead>
<tr>
<th></th>
<th>Costa Concordia</th>
<th>Allure of the Seas</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOA</td>
<td>290m</td>
<td>360m</td>
</tr>
<tr>
<td>GRT</td>
<td>114,500</td>
<td>120,000</td>
</tr>
<tr>
<td>Number of pass decks</td>
<td>13</td>
<td>16</td>
</tr>
<tr>
<td>Passengers</td>
<td>3,700</td>
<td>5,400</td>
</tr>
<tr>
<td>Crew</td>
<td>1,100</td>
<td>1,800</td>
</tr>
<tr>
<td>Deaths</td>
<td>34</td>
<td>N/A</td>
</tr>
</tbody>
</table>
How the Costa Concordia could be salvaged
1. 'Parbuckling' - using crane and cables to right the ship

![Diagram of parbuckling process](image)

- Winches tighten the wires and roll the ship upright
- Air bag could be used to assist
- Heavy duty cables run around the hull and attached to a crane
- 'Preventer' anchored to the sea bed

2. Lifting
Barges positioned each side of the ship

- Barges hold up the ship
- Water is pumped out and patching effort begins to temporarily repair damage below the waterline
RAISING THE CONCORDIA

U.S.-based Titan Salvage and Micoperi, an Italy-based salvage company, have been selected to recover the wreck of the Costa Concordia, which ran aground off the Italian island of Giglio in January.

SETUP
1. Ship stabilized to prevent movement
2. Grout laid beneath hull to provide support and help ship pivot
3. Subsea platform installed
4. Sponsors welded to port side

Sponsors
Provide buoyancy

Cranes

Subsea platform
Platform pulling points

Hull

Illustration not to scale

REFLOATING
1. Concordia is rolled upright along port side
2. Inshore sponsors added and holdbacks disconnected
3. Concordia should float at a level of 61 ft

Costa Concordia
Length: 950 ft
Beam: 117 ft
Weight: 44,612 MT

Graphic: Brice Hall/RNGS
Source: Titan Salvage

Reuters
Landmark consortium

- Shipowner assumes cargoes proportion to GA/salvage guarantees
- Only in respect of container ships
- Notional value per container, $30,000
- Limit $500,000,000 (being 16,666 teu x $30,000)
- 1 guarantee for cargo interests
- Enables immediate release of undamaged containers at safe port
- Consolidated and uninsured containers covered
Why would carrier want to buy?

- Never call GA or demand guarantees from Freight forwarder, consignee or consignor
- Very small surcharge per container
## Stakeholders

<table>
<thead>
<tr>
<th>Stakeholder</th>
<th>Rationale</th>
</tr>
</thead>
</table>
| Shipowners            | • Reduced administration costs  
                         • Speedier resolution  
                         • Great selling point for clients with no detention  
                         • No longer have to organize and collect counter guarantee                                                                              |
| Salvors               | • No longer have to collect guarantees from each cargo party  
                         • Quicker resolution time                                                                                                                  |
| Uninsured cargoes     | • No longer have to provide security for each GA/Salvage guarantees  
                         • Adjusters are spared the time-consuming collection and calculations for thousands of interests and can concentrate on the higher level work of determining the adjusting principles and quantum involved in the casualty. |
| Adjusters             | • Simplified product  
                         • Less costs to adjust                                                                                                                      |
| Insurers              |                                                                                                                                           |
Large ships, salvage and Landmark

Questions?

peter_townsend@swissre.com
jss@jssusa.com