

BIGNEWS

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SWELL CONDITIONS

BIGLIFT

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BIGLIFT
KEY IN HEAVY LIFT



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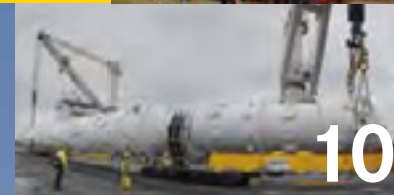
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INTRODUCTION

Dear Reader,

I am very pleased to introduce BigNews No 21.

In this issue we highlight the design modifications we made to our Happy S vessels, the major one being the increase of lifting height and outreach. In line with market demand, we made a number of changes to the design of Happy Star, which is currently under construction. Happy Sky is nearing her sea trials and will join our fleet at the end of the first quarter next year, after installation of the cranes. We look forward to having both vessels in operation and offering new capabilities to the market.

We also bring you up to date with the latest projects and our newest technologies such as introducing heave compensation on our cranes. This functionality was used for the installation of loading arms in swell conditions. Other interesting features in this issue cover our activities in handling floating equipment and two challenging projects in terms of both outreach and lifting height in which coke drums and a coal factory were transported.

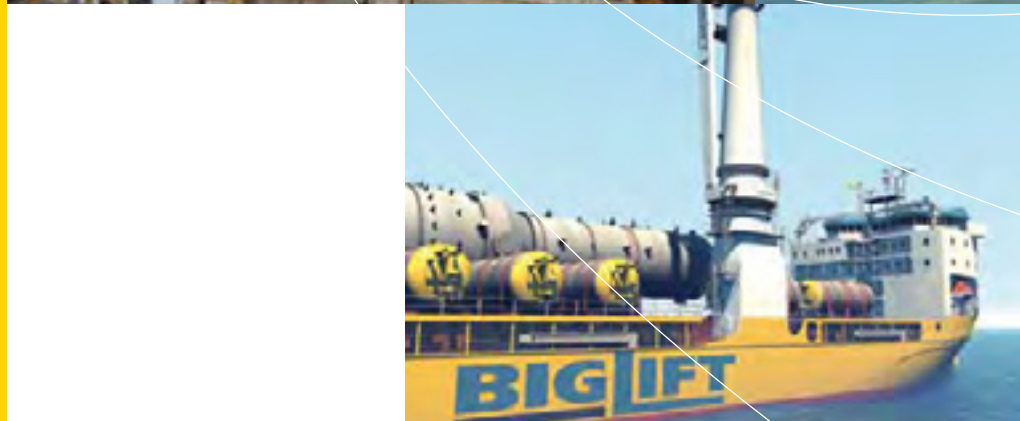
I trust this BigNews issue will give you a good insight into the innovative approach we take and our technical and operational capabilities to perform challenging projects, reliably and to the highest safety standards.

Arne Hubregtse

Managing Director



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THE HAPPY S VESSELS

02

WE ARE VERY PLEASED TO ANNOUNCE THAT THE TWO NEWBUILD VESSELS OF THE HAPPY S-TYPE WILL ENTER THE BIGLIFT FLEET IN EARLY 2013 AND EARLY 2014. THESE FLAGSHIPS HAVE A LIFTING CAPACITY OF TWO TIMES 900 MTON, COMBINABLE TO 1,800 MTON. THE LENGTH OF THE VESSELS AND THE FORWARD POSITION OF THE SUPER-STRUCTURE OFFER A SINGLE, LARGE CARGO HOLD AND AN EXTREMELY WIDE, OPEN DECK AREA.

To make sure BigLift could meet the latest requirements of the market the specifications of both vessels were changed during the design and construction period. The most important changes to the design were the increase in the crane lifting height and outreach and the decision to operate both

vessels without a stability pontoon. It has been widely acknowledged that the use of pontoons for vessels of this size is a large safety risk during loading and discharging operations.

HAPPY STAR

During the design of Happy Star, the crane pedestal was raised by 4 metres and the jib extended by 6 metres, resulting in 10 metres more lifting height and 6 metres more out-reach. This gives the vessel a crane curve that is unmatched amongst heavy lift vessels, and allows cargoes to be lifted higher and further away than under the vessel's original design.

As a direct consequence, the beam of the vessel has increased to 29 metres. This provides the vessel with sufficient anti-heel capacity and stability to use the cranes to

their full capacity of 1,800 mton at 25 metres, 1,600 mton at 28 metres and 1,000 mton at 41 metres, with a lifting height of close to 47 metres above the main deck. This is all, as mentioned, without the need for a stability pontoon during the loading or discharging operations.

To provide the maximum useable deck area, the weather deck extends over the full width of the vessel and has a 15 t/m² carrying capacity over the full length and beam. The weather deck hatch covers are pontoon type. The tweendeck is adjustable in height and it is possible to sail with open weather deck hatches on a draught of up to 8 metres.

Using the most modern design methods, the hull was adapted to the new dimensions and special attention was given to optimising the

power performance, resulting in a trial speed of 17 kn. The vessel has a Finnish/Swedish 1A Ice Class notation.

With these features, Happy Star offers a unique lifting height and outreach for the heavy lift and project cargo market and a safe and reliable transport solution.

HAPPY SKY

During the construction of Happy Sky, BigLift decided to raise the crane pedestal by 4 metres in order to create more lifting height in view of market demand. The lifting height is now 41 metres above the main deck.

The vessel is equipped with folding hatch covers, a large poop deck and cargo rails which make it possible to use the vessel's full deck area for cargo stowage. The tweendeck

of the vessel is adjustable in height and Happy Sky is allowed to sail with open weather deck hatches on a draught up to 7.5 metres.

This vessel too has the Finnish/Swedish 1A Ice Class notation and a trial speed of 17 kn.

Delivery

Happy Sky is now in her final outfitting stages and we expect the vessel to join our fleet in March 2013, well in time for her first voyage for the Cape Lambert Port B, Phase B project in Australia. Happy Star is in the final design phases and will join the fleet in the first quarter of 2014.

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SUCCESSFUL INSTALLATION IN SWELL CONDITIONS ACTIVE HEAVE COMPENSATION ON HAPPY D-TYPE VESSELS

ACTIVE HEAVE COMPENSATION (AHC) IS THE MOST MODERN HEAVE COMPENSATION SYSTEM IN THE MARKET AND IS COMMONLY USED IN OFFSHORE OPERATIONS. AN AHC SYSTEM USES MOTION SENSORS POSITIONED ONBOARD THE INSTALLATION VESSEL TO PROVIDE INPUT ABOUT THE PULL OR SLACK OF THE HOISTING WINCH OF THE CRANE.

In the spring of 2012 BigLift was asked by the Dutch company Verwater to find a solution for the installation of two KANON loading arms on the jetty of the NuStar Terminal at St. Eustatius, a small, 21 km² volcanic island in the Caribbean. With the jetty jutting 900 metres out into the Caribbean Sea, about a metre of swell was expected during the installation. However, the bearings of the 22 mton loading arms were not designed to take the impact load of a hard slam on the jetty caused by the vessel's motions. BigLift therefore, needed to compensate for the vertical movement (heave) of the crane hook so the two loading arms could land gently.

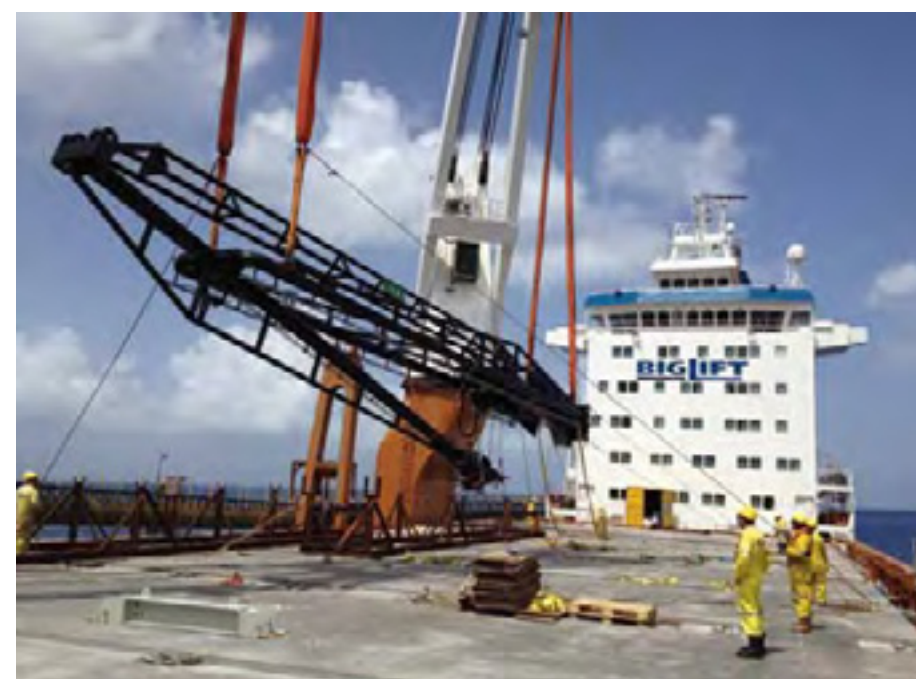
The design criteria for the AHC system had to be able to compensate for a swell of 1 metre within a wave period of 10 seconds. The idea emerged that an AHC system could be installed onto the winch of the 50 mton hoist of the Happy D vessels' NMF cranes. While investigating this option, BigLift came into contact with the Norwegian AHC company SCANTROL, which could provide the AHC system for the vessel's heavy lift crane. Combined efforts made the AHC system work perfectly on the ship.

After successful tests, witnessed by a Lloyd's surveyor, Happy Dover landed the two loading arms smoothly on their foundations. This was under swell conditions of an average of 40 cm and a peak of 90 cm and with Happy Dover rolling about 1.5 degrees.

Without the AHC system BigLift would never have even have started the discharge operation. The horizontal movement of the loading arms was easily controlled by a guiding system around the foundation in combination with steering lines and chains.

The log system showed the heave compensation values and the working range, which was 30% of the total AHC capacity. The two KANON loading arms were added to six loading arms installed on the NuStar jetty previously. These loading arms were all installed using jack-ups, which is common practice where swells are likely.

The successful BigLift installation of the loading arms in these conditions again raises the bar for future projects. With the use of the AHC system on the Happy D vessels, BigLift can now offer a very competitive installation solution as an alternative to the jack-up system. As the transportation vessel is also the installation vessel, the whole project requires less operation time and consequently, is much more cost efficient.



04 3D MODELLING PROVES INVALUABLE

THREE SHIP UNLOADERS, TRANSPORTED ON BEHALF OF SWISS CLIENT RIO TINTO ALESA, REQUIRED VERY CLOSE COORDINATION BETWEEN OUR OPERATIONS, ENGINEERING AND CAD DEPARTMENTS. THE UNLOADERS HAD TO BE MOVED FROM JEBEL ALI, U.A.E. TO AL Taweelah, U.A.E., RAS AL KHAIR, SAUDI ARABIA AND RICHARDS BAY, SOUTH AFRICA.

Measuring 54 x 27 x 33 metres and weighing 593mt, the largest of the three ship unloaders was modelled by BigLift's CAD specialists using the 3D Eagle design system. This made it possible to simulate the lifting operation in great detail and thoroughly check every step of the process. In this way, it was possible to fine-tune the operation before the actual execution. Of course, for a major lift like this, it is very important that the client provides the correct drawings and measurements of the piece to be moved, so that the model can be drawn up as accurately as possible.

In order to lift giant ship unloaders like these, BigLift uses specially designed 24 metre long lifting beams that are placed underneath the unloaders. By the way, the whole rigging that lifts the unloader weighs 93 mton alone!

The 3D modelling proved its worth once more in providing a very meticulous, detailed, realistic and therefore, very valuable simulation.



THREE SHIP UNLOADERS



Captain T. Helmus

In the second week of May we learned that we had to load a ship unloader in Jebel Ali mid June, so the first preparations were started. By that time, head office had already been busy engineering and simulating “our” ship unloader for more than four months. When our vessel came closer to Jebel Ali, more and more contact was made with the office about this cargo.

When arriving in Jebel Ali it was pretty obvious where our berth was because the ship unloader was waiting for us –

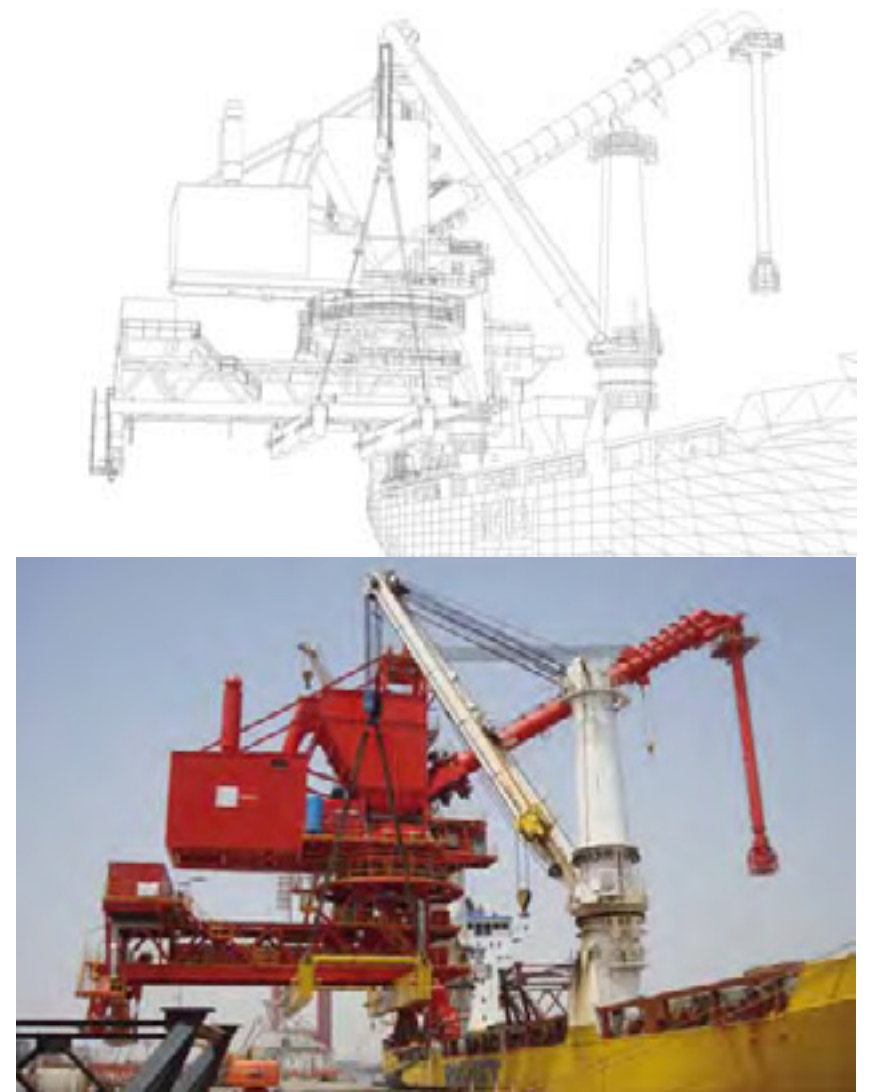
its size and colour were hard to miss! After a smooth berthing and clearing of the vessel, the real challenge started. For the installation of a support structure for the cargo, the fly jib of crane 2 had to be rigged up. In the meantime two 600 mton beams were waiting for us at the quayside and these also needed time to be rigged up with the so-called “spacer beam”. While the crew of Happy Rover was busy preparing the vessel, employees of Rio Tinto Alesa worked on getting the cargo in reach of the ship’s cranes using SPMTs.



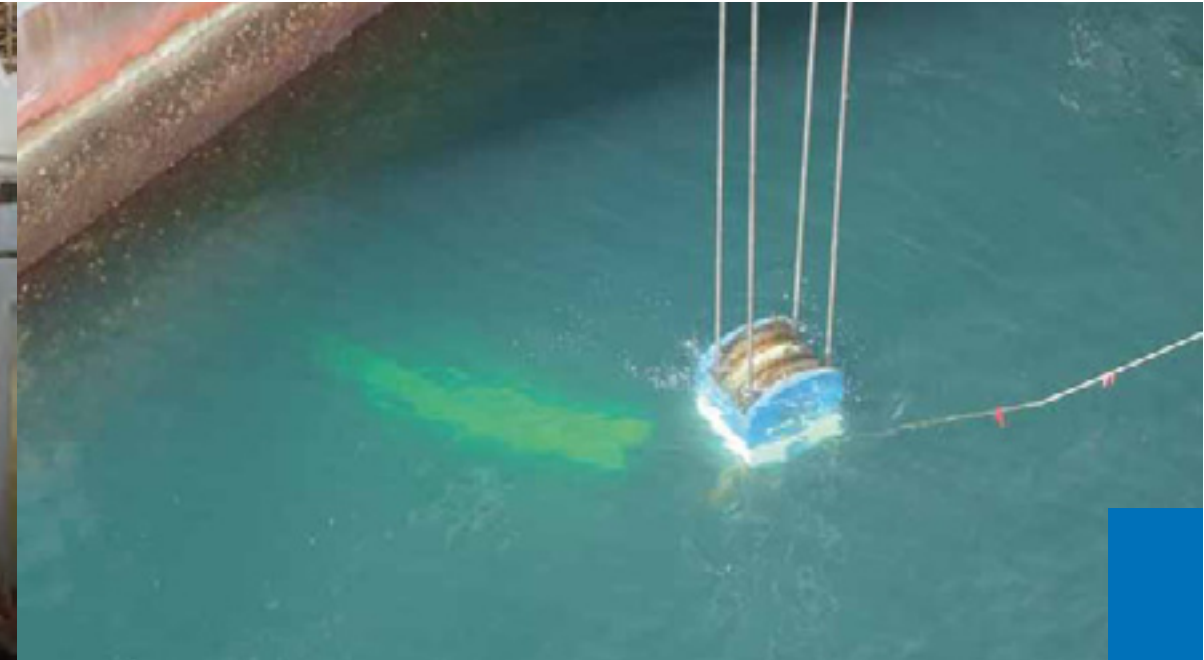
After a day and a half of preparations, we started lifting on Friday morning. The actual lift only took three hours, thanks to these careful preparations. The crew was busy for two days lashing the cargo to the ship’s deck and assisting Rio Tinto Alesa with rigging the boom support, as well as loading some more general cargoes. Temperatures on deck were very high, averaging 40-45 degrees and even 49 degrees centigrade! Although we tried to work during the dark as much as possible, it was still tough.

Five days after we moored, we let our lines go again and started our voyage to Richards Bay where we had to discharge the ship unloader.

Capt. T. Helmus



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05 JACK RYAN'S PIT STOP AT PORT GENTIL

BIGLIFT'S TRANSPORTER WAS CONTRACTED BY TRANSOCEAN TO LOAD FOUR AZIMUTH THRUSTERS IN THE PORT OF GALVESTON WITH DESTINATION ANCHORAGE PORT GENTIL, WHERE THE ULTRA-DEEP-WATER DRILL SHIP JACK RYAN REQUIRED OUR ASSISTANCE FOR THE EXCHANGE AND OVERHAUL OF ITS THRUSTERS.

The two 275 mton heavy lift mast cranes of Transporter where re-reeved so that the crane hook could reach a water depth of 25 metres. Careful planning and working 24 hours around the clock are key elements

in such operations. An additional accommodation unit was also placed on board Transporter to house the client's representatives for the entire operation.

Every thruster exchange operation started with the preparation of the new thruster on the deck of Transporter. Once this thruster was ready and in a good position for the exchange, the old thruster in the drill ship could be lowered. At the same time Transporter lowered the rigging and main hook in the water to the required depth. Once both the rigging and the old thruster were at the same depth, divers made a secure connection - a wet handshake - between

the thruster hanging from Jack Ryan and Transporter. Then, the old thruster could be hoisted on to Transporter's deck. Once there, the so-called strand wires were changed over from the old to the new thruster. With all the strand wires in place, the earlier operation was performed in reverse order. In this way, the exchange of a single thruster only takes approximately four to six hours.

During the exchange project for the four thrusters, Transporter was also used as a workshop to overhaul the thrusters. After a successful exchange, Transporter returned to the Port of Galveston to discharge four old thrusters and various other equipment

from Jack Ryan. The Transocean personnel and Transporter's crew certainly showed what teamwork is all about. Transocean is the world's largest offshore drilling contractor and the leading provider of drilling management services worldwide. BigLift is proud to be an approved supplier for Transocean, providing it with thruster exchange services on a worldwide basis. By combining our lifting experience with specialist diving skills, BigLift provides innovative underwater equipment exchange solutions. This can eliminate the need for urgent dry-docking, minimise off-hire time and maximise the revenue-generating capabilities of the vessel.

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06 IS NOTHING TOO LONG?

RECENTLY HAPPY DELTA TRANSPORTED A SHIPMENT OF COLUMNS AND DRUMS FROM ULSAN, KOREA TO MOBILE, U.S.A., FOR THE KEMPER COUNTRY IGCC PROJECT, WHICH IS A STATE-OF-THE-ART ELECTRIC POWER PLANT THAT CONVERTS COAL (LIGNITE) TO GAS. THE CLEANED GAS IS USED TO GENERATE POWER BY FIRING IT IN A GAS TURBINE.

After loading hold No.2 with the columns and drums of various sizes and weights, two 678 mton AGR H2S Absorbers of 72.48 metres long were lifted in tandem operations onto the deck. Not only was the loading of the columns a challenge because of their lengths and weights, stability and positioning also took some careful thought.

Initially, the lifting plans designed the lift in two stages, with the step sequence carefully simulated on the BigLift CAD system. During the actual lifting on board it turned out that

the H2S Absorbers weighed slightly less than had been originally calculated so it was possible to load them directly into their final positions. Lifting a column of such length and weight requires highly accurate manoeuvring when easing the column between the cranes, taking care to stay away from jibs, other cargo, lifting gear and also Happy Delta's third crane. Positioning on deck required precision accuracy; all six saddles had to be placed in their exact, pre-calculated positions before the columns were loaded.

The entire shipment was prepared in great detail and this resulted in a flow of information between BigLift and the client. Prior to the loading operation, everything was checked again at the manufacturer's premises. Ultimately, these measures led to a smoothly executed job and a satisfied client.



Minesweeper travelled with Happy Dover



Merwedegracht takes catamarans to Russia



Happy Delta loads barges for Suriname



Happy Diamond unloads Ocean Racer



Happy Ranger loading two workboats

07 WHEN SHIPS FLY...

PRACTICALLY EVERY WEEK, A VESSEL OF THE SPLIETHOFF GROUP LOADS A PIECE OF FLOATING CARGO SOMEWHERE IN THE WORLD. SHIPMENTS OF UP TO 200 MTON CAN BE LIFTED BY SPLIETHOFF VESSELS, WHILE HEAVIER ITEMS ARE HANDLED BY BIGLIFT. IN TOTAL THE SPLIETHOFF GROUP OPERATES ABOUT 100 VESSELS THAT CAN HANDLE FLOATING EQUIPMENT FROM 5 MTON TO 1,400 MTON (SOON TO BE 1,800 MTON) WITH THEIR OWN CRANES.

In June for example, BigLift Shipping transported two, 90 mton catamarans, which have a capacity for 200 passengers, from Singapore to Vladivostok, Russia. The catamarans were used to ferry participants to the Asia-Pacific Economic Cooperation (APEC) 2012 Summit held on Russky Island. Spliethoff's m.v. Merwedegracht transported the catamarans, with BigLift engineering the cradles and lifting arrangements, as well as assisting during the actual loading. After the Summit the catamarans were returned to Singapore.

Where BigLift offers a wide range of services for moving heavy objects, floating or otherwise, sister company Sevenstar maintains and develops a specialised worldwide network for transporting yachts and other floating equipment. Sometimes both markets meet and BigLift and Sevenstar combine their extensive knowledge and a large supply of readily available cradles and sea-fastening equipment to take the floating shipments safely across the sea.

Recently, BigLift and Sevenstar joined forces to ship two workboats on Happy Ranger from North West Europe to Australia and separately, four barges on Happy Delta to Suriname. For these shipments Sevenstar assisted in contracting the cargoes for BigLift's vessels. BigLift's engineers and port captains of course, ensured that they were transported safely.

Another eye-catching shipment was the transport of five racing yachts for the round the world Volvo Ocean Race. Due to the piracy threat in the Indian Ocean, the Race Organisation decided to have the yachts shipped across the Indian Ocean instead. The transport itself had to be kept secret until the racing yachts had returned to safer waters.

The yachts had to be shipped with minimum delay. Therefore, they were handled and shipped with their masts up, which made them very fragile and very high; their total height was 37 metres. Sevenstar, being the expert in yacht transportation, together with BigLift developed a lifting method so that the yachts could be lifted in a single hook operation without the mast touching the cargo ship's cranes, hook or jib. With the impressive lifting height of the Happy D class, the yachts could be handled without interference with the masts. Happy Diamond was brought in position to take the yachts safely across the Indian Ocean and crucially, without delay.

There are many more examples but we would finally like to highlight the shipment of a 640 mton minesweeper that was transported from Italy to the Baltic Sea. The minesweeper had been built by a shipyard that usually produces luxury yachts typically found in the likes of Monaco and Fort Lauderdale. Because of Spliethoff's proven track record in shipping yachts, BigLift was able to offer their expertise. Besides the weight, the most challenging aspect was designing a sea-fastening plan and cradles that sufficiently supported the navy vessel, as it was only built from fibreglass.

So perhaps, you may conclude that floating equipment takes to the air more often than you may think, even if it is only for a short stretch.

SHALLOW DRAUGHT

IN THE AUTUMN OF 2011, PANPROJECTS ASKED BIGLIFT TO STUDY THE POSSIBILITIES FOR TWO SHIPMENTS COMPRISING MAJOR PARTS DESTINED FOR A REFURBISHED COAL PRODUCTION PLANT. THE MODULES HAD TO BE TRANSPORTED FROM LUBECK, GERMANY TO THEIR END DESTINATION IN CLAIRTON, PENNSYLVANIA.



08

BigLift had to ship the modules to Mobile, Alabama and then they would be barged all the way up to Pennsylvania. The cargoes were booked on Happy Diamond and Happy Dover and in July, the project was completed successfully.

Although BigLift regularly ships factory parts, this particular project involved some specific challenges.

Protected under deck

In order to refurbish an existing coke plant in Pennsylvania, Thyssen Krupp Uhde GmbH (Uhde) was contracted to build the machinery that moves coal through the various stages of a Coke Oven. In order to save commissioning time at the plant in the USA, Uhde designed the machines in modular form, so they are ready to 'plug and play' once installed. Because of the many sensitive parts the machines had to be loaded below deck to protect them from the North Atlantic weather conditions. Two sets of identical parts had to be moved, whereby the pusher machine, with a maximum width of 17.60 metres just

fitted inside the 17.80 metre hold, with only centimetres to spare on each side.

Lifting point challenge

In the winter before transportation was due, BigLift inspected the cargo when it was still under construction at the LMG yard in Lubeck. However, it was then discovered that the lifting lugs for the modules had been located so far inside the modules, that access with BigLift's usual grommets and shackles was impossible. But together with Uhde, the BigLift operational and CAD departments worked out a number of innovative solutions to solve the problem.

Overcoming shallow water

The water depth at LMG factory was too shallow to moor a large Happy D vessel directly alongside the quay, so a clever

solution was required here too. BigLift arranged a sounding of the berth and the surrounding river area. This showed that the water depth near the middle of the river was more favourable but still not deep enough. Therefore, a decision was taken that both Happy D vessels should temporarily discharge nearly all their tweendecks at another location, before berthing at LMG. This reduced the vessels' draught sufficiently to guarantee a safe clearance between the river bottom and the keel. To keep the vessel positioned in the middle of the river, Panprojects arranged spacer barges between the Happy Ds and the quay. However, all this meant that the required outreach to lift the cargo from the quay increased by 14 metres to a staggering 21 metres! But with the large

lifting height and capacity of the ships' cranes even the largest and heaviest module (the 325 mton pusher machine) could be lifted on board straight off the quay.

Unusual berth

As the LMG yard is situated close to the city centre on the River Trave and because the Happy D vessels had to berth in almost the middle of the river, the waterway for commercial traffic going in and out of Lubeck's centre was temporarily blocked. Of course, the local authorities had been contacted well in advance for the required approval for this unusual berthing method.



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09 BIGLIFT PEOPLE

NEW BIGLIFT STAFF



Reinder de Haan

Reinder joined the commercial team on June 1, where he will focus on China, India, the Middle East and France. He has extensive experience in the shipping industry, having started his maritime career in London in 1998. Later on he moved to Antwerp as a reefer shipping broker and since 2008, Reinder has been involved in the heavy lift industry.

NEW AGENT

For U.K. and Eire

It is our pleasure to announce our new agent for the U.K. and Eire. Shearwater Shipping and Chartering is appointed exclusive Agent to BigLift Shipping and Agent/Preferred Broker for Spliethoff. With the experience and long track record in heavy lift and project cargo of Shearwater, we look forward to a fruitful cooperation in the demanding U.K. and Eire markets.

BIGLIFT OLD HANDS RETIRE

THIS YEAR WE SAID GOODBYE TO FOUR LONG-TIME COLLEAGUES WHO HAVE ALL GIVEN THEIR BEST TO THE COMPANY DURING THEIR LONG WORKING CAREERS.

Arie Peterse, Willem Fokker and André Posthumus Meyjes were all with the forebears of our company, even before Mammoet Shipping was founded, starting their extensive careers in the fourth quarter of 1971. Robert op ten Noort was a relatively late arrival in this context, joining Mammoet Shipping in September 1977. Between them, these gentlemen have formed the foundation and the structure that our company is built on. Their wealth of knowledge and experience has undoubtedly brought BigLift Shipping to where we are now. Fortunately, we are not left high and dry following their departure. They have been timely succeeded by equally skilled people to guarantee the future success of BigLift.

Arie Peterse retired as Managing Director and his successor is Arne Hubregtse. Johan Boer succeeded Robert op ten Noort as General Manager Commercial Department. Willem Fokker retired as General Manager Operations Department and his position was taken over by Kees Visser, the former Deputy Manager Operations. Meanwhile, the Deputy position is taken up by Gem Wender. Last but not least, André Posthumus Meyjes retired as Fleet Coordinator and was succeeded by Ludolf Boiten.

We wholeheartedly wish Rob, Arie, André and Willem very pleasant, long and healthy retirement years and thank them for everything they have done for BigLift Shipping.

IN MEMORIAM GERT VAN DER GEER

It is our very sad duty to inform you that our highly respected colleague Gert van der Geer passed away in the night of 22 September.

Gert joined our commercial department in 2000. He was a very dedicated and inspiring colleague and above all, a very special person. He brimmed with ideas and had a keen mind. Gert's boundless enthusiasm and his captivating personality made him more than a colleague to many of us. With great respect we remember the way he fought his battle over the last couple of years.

10 NEWSFLASH



THREE GORGON LNG MAIN CRYOGENIC HEAT EXCHANGERS

At the end of July the third shipment of Gorgon LNG Main Cryogenic Heat Exchangers (MCHes), which were loaded in Philadelphia, USA, for Henderson, Australia, was successfully completed.

The first shipment took place in October 2011. All three Gorgon LNG MCHes had been manufactured in Fairless Hills, Philadelphia by Air Products & Chemicals Inc. and had been transported to

Philadelphia by train. The transport saddles for these voyages were used for both the train and sea journeys. BigLift's Happy Dragon, Happy Rover and Happy Diamond were deployed for these shipments.

4,000 MTON MAST CRANE TRANSPORTED ON HAPPY BUCCANEER

Another impressive Huisman mast crane was transported by Happy Buccaneer recently from the Huisman Production Yard in Zhangzhou, China, to Okpo in South Korea. The 4,000 mton lifting capacity crane will be installed on Heerema's offshore vessel Aegir, which is under construction at a shipyard in Okpo.



CONFERENCES AND SHOWS

MEET US AT

Offshore energy
in the RAI, Amsterdam
October 23 – 24 at Stand no. 205.

Australasian Oil & Gas Exhibition
in Perth. February 20-22, 2013

Break Bulk China in Shanghai
March 12 – 15, 2013 at Stand no. E10



HAPPY DRAGON CARRIES FIVE MOBILE HARBOUR CRANES

BigLift Shipping moved five mobile harbour cranes for leading crane manufacturers Liebherr and Gottwald from Germany and Belgium to Nigeria by Happy Dragon. In order to accommodate all five cranes in one shipment, one of them was positioned on the tank top, thereby using the open hatch sailing capability. The total cargo volume loaded was 85,392 frts. The three Liebherr cranes were LHM 550s of 24.8 x 15.3 x 40.6 metres, each weighing about 295 mton. These were loaded in two pieces, with the jibs stowed separately. The two Gottwald GHMK 4406 cranes of 48.4 x 13.5 x 30.1 metres each and weighing about 275mton, were loaded in one piece.

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HAPPY STAR

DELIVERY Q1 2014



| | | |
|-------------|------------|--------------------------|
| length o.a. | 156.00 m | registration Netherlands |
| length p.p. | 147.60 m | 2 cranes each 900 mt |
| breadth mld | 29.00 m | class Lloyd's + 100A1 |
| deadweight | 20,000 mt | Finnish Ice class 1A |
| under deck | 20,150 cbm | Open sailing |
| on deck | 3,400 sqm | |

HAPPY SKY

DELIVERY Q1 2013



| | | |
|-------------|------------|--------------------------|
| length o.a. | 154.80 m | registration Netherlands |
| length p.p. | 145.20 m | 2 cranes each 900 mt |
| breadth mld | 26.50 m | class LLOYD'S + 100A1 |
| deadweight | 18,680 mt | Finnish Ice class 1A |
| under deck | 20,500 cbm | Open sailing |
| on deck | 3,250 sqm | |

HAPPY BUCCANEER

YEAR BUILT 1984



| | | |
|-------------|------------|--------------------------|
| length o.a. | 145.89 m | registration Netherlands |
| length p.p. | 134.00 m | 2 cranes each 700 mt |
| breadth mld | 28.30 m | ro-ro width 20.30 m |
| deadweight | 13,740 mt | ramp capacity 2,500 mt |
| under deck | 19,908 cbm | class LLOYD'S + 100A1 |
| on deck | 3,067 sqm | Open sailing |

HAPPY DELTA / HAPPY DIAMOND /
HAPPY DOVER/ HAPPY DRAGON /
HAPPY DYNAMIC

YEAR BUILT 2011



| | | |
|-------------|------------|--------------------------|
| length o.a. | 156.93 m | registration Netherlands |
| length p.p. | 147.75 m | 2 cranes each 400 mt |
| breadth mld | 25.60 m | 1 crane 120 mt |
| deadweight | 17,518 mt | class LLOYD'S + 100A1 |
| under deck | 20,892 cbm | Finnish Ice class 1A |
| on deck | 2,736 sqm | Open sailing |

HAPPY RANGER / HAPPY RIVER
HAPPY ROVER

YEAR BUILT 1997/1998



| | | |
|-------------|------------|--------------------------|
| length o.a. | 138.00 m | registration Netherlands |
| length p.p. | 127.14 m | 2 cranes each 400 mt |
| breadth mld | 22.88 m | class LLOYD'S + 100A1 |
| deadweight | 15,634 mt | Finnish Ice class 1A |
| under deck | 17,863 cbm | Great Lakes fitted |
| on deck | 2,450 sqm | Open sailing |

TRACER / TRAMPER /
TRANSPORTER / TRAVELLER

YEAR BUILT 1999 / 2000



| | | |
|-------------|------------|--------------------------|
| length o.a. | 100.50 m | registration Netherlands |
| length p.p. | 96.50 m | 2 cranes each 275 mt |
| breadth mld | 20.40 m | class BV 1 3/3 E |
| deadweight | 8,600 mt | Ice class 1C |
| under deck | 10,530 cbm | Great Lakes fitted |
| on deck | 1,330 sqm | |