Inséré le 23/12/14 BOEKEN LIVRES Enlevé le 23/01/15

"Schilders aan de Nieuwe Waterweg"

B O E K B E S P R E K I N G door : Frank NEYTS

Voor het eerst is de kleurrijke geschiedenis van de Nieuwe Waterweg en van Hoek van Holland opgetekend. Het boek '**Schilders aan de Nieuwe Waterweg, 150 jaar Hoek van Holland**' vertelt deze geschiedenis aan de hand van 240 topografische schilderijen, kaarten en tekeningen. In 2014 is het 150 jaar geleden dat de Waterweg werd aangelegd, waarmee ook het dorp Hoek van Holland ontstond. De Waterweg maakte de Rotterdamse haven groot en zorgde voor bloei in Schiedam, Vlaardingen en Maassluis. De schrijvers, **Maarten van der Schaft** en **Martha Vollering,** onderzochten vele collecties en archieven om de mooiste kunstwerken te verzamelen ter illustratie van de boeiende verhalen. In de uitgave zijn 240 'full colour' reproducties opgenomen van zowel eeuwenoude als hedendaagse kunstwerken. Het werd daarmee een uniek kunstboek en geschiedenisboek ineen. Emigranten, toeristen, militairen, dagjesmensen, vissers en vrachtvervoeders: vanaf de aanleg van de Nieuwe Waterweg (tussen 1864 en 1872) hebben velen dankbaar gebruik gemaakt van deze verbinding met de Noordzee. De haringvisserij in Vlaardingen en de jeneverindustrie in Schiedam floreerden dankzij de Waterweg en De Hoek groeide na 1920 uit tot badplaats Rotterdam aan Zee. De groei van de haven betekende echter het einde van het natuurgebied De Beer en dorpen als Rozenburg. Des te meer waarde hebben de bewaard gebleven schilderijen. Rond 1845 schilderde J.B. Jongkind in de Hoekse regio en later zwierf H.W. Mesdag er met zijn schetsboek door de duinen. Waterwegschilders als **C.C. Dommelshuizen** en **Dirk Hidde Nijland** kozen dezelfde locatie als Haagse 19e-eeuwse schilders en hedendaagse 'en plein air-schilders' en kunstfotografen, die ook in de selectie zijn opgenomen. **Een prachtige jubileumuitgave, een aanrader! 'Schilders aan de Nieuwe Waterweg, 150 jaar Hoek van Holland**' (ISBN 978-90-73930-38-4), telt 197 pagina's, werd als hardback uitgegeven en kost 29,50 euro. Het werd uitgegeven door Seapress, Uitgeverij Lakerveld, Rijswijk.

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The effect of high fuel costs on liner service configuration in container shipping

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1. Introduction

Bunker fuel is a considerable expense to shipping lines. In the last 5 years, bunker prices have risen considerably. This paper deals with the impact of increasing bunker costs on the design of liner services on the Europe–Far East trade. The paper assesses how shipping lines have adapted their liner service schedules (in terms of commercial speed, number of vessels deployed per loop, etc.) to deal with increased bunker costs.

The paper is organized as follows. In the first part, we discuss the types of bunkers and the recent price evolution of ship fuels. The second section deals with the environmental

pressure on bunkers and the associated use of low sulphur fuels. The two following parts provide a general discussion on how shipping lines are dealing with high bunker costs as well as the relationship between bunker costs and liner service design. The last part of the paper looks at the role of bunker costs in liner service dynamics on one specific trade route: the North Europe–Far East trade. We provide a thorough analysis of the changes in the characteristics of the liner services serving this trade and of the associated cost implications. The paper also introduces a cost model to simulate the impact of bunker cost changes on the operational costs of liner services.

2. The price evolution of bunker fuels

Large amounts of bunker fuel are consumed each year by the world fleet of cargo and commercial vessels as well as the military ones. About 80% of the total bunker fuel relates to heavy fuel oil. Heavy Fuel Oil (HFO) mainly consists of residual refinery streams from the distillation or cracking units in the refineries. The type of HFO is mainly defined by the crude quality and the refinery process. High sulphur crude will result in a high sulphur HFO (Concawe, 1998). Other bunker fuels than the HFO are the marine diesel oil (MDO) and the marine gas oil (MGO). These are distillates from the refinery process with much lower viscosity and lower sulphur content.

Bunker prices constantly fluctuate due to market forces and the cost of crude oil. The bunker market is extremely price sensitive with ships often basing decisions on where to bunker on the relative price of fuel available in respective ports. Bunkering decisions are impacted by relative price premiums arising as a result of different fiscal policies across countries and regions, especially in terms of fuel taxes.

The price difference between crude oil and bunker oil has varied over time. In the last couple of years bunker prices have risen considerably in line with the crude oil price. Table 1 shows the evolution of bunker prices (380 CST grade–CST refers to the unit centistokes and relates to the kinematic viscosity of the residual fuel) at eight selected ports since 2001. Roughly speaking, bunker prices quadrupled between 2001 and the end of 2007, when they reached a peak of about 500 USD per metric ton in most of the ports considered. As Table 1 indicates, the price increase was particularly manifest during the last 3 years.

Table 1
Indicative bunker market prices for 380 CST (average value for the year and peak value in 2007, fourth quarter) at selected ports

	Rotterdam	Genoa	Fujairah	Singapore	Tokyo	Durban	Houston	Long Beach
Indicative bunker market prices for 380 CST (USD per metric ton)								
2001	116	130	128	131	159	135	114	127
2002	133	145	145	148	169	151	134	143
2003	152	165	167	172	193	173	163	163
2004	155	170	177	181	208	180	168	189
2005	234	251	259	264	296	263	250	267
2006	292	312	311	314	345	320	302	319
2007 H1	288	311	321	321	363	322	299	329
2007 Q4	505	516	513	517	565	–	502	505
2007 Q4 vs. 2001	+335%	+297%	+301%	+295%	+255%	–	+340%	+298%
2007 Q4 vs. 2004	+226%	+204%	+190%	+186%	+172%	–	+199%	+167%

Source: Dynaliner.

An increase in the bunker oil price has an upward effect on costs. In the tanker market many vessels are on time charter where bunkers are paid by the charterer. Tankers on voyage charter still face considerable bunker price risk. Whether or not these increased costs can be compensated for by higher freight rates depends upon the market at the time. Some commentators suggest that the aggregate bunker price risk for tankers is larger than for liner shipping because of the fact that the ships concerned are generally larger (i.e. they use more fuel for the same distance traveled) and older (i.e. they are less fuel efficient) and there are more of them. Liner companies typically argue they are seriously affected by increasing fuel costs as well.

For liner shipping activities, not least container shipping, ship fuel is a considerable expense. Recent years saw a succession of companies reporting on the effect of the price increases on their accounting bottom lines. Shipowners are using fuel surcharges to recoup some of the increased costs in an attempt to pass the costs on to the customer through variable charges. An increasing bunker price, especially in the short term, is only partially compensated through surcharges to the freight rates via the so-called Bunker Adjustment Factor (BAF) and will therefore affect earnings negatively. All freight rates in container shipping are exclusive of BAF. The BAF may be adjusted in response to fluctuations in bunker oil prices and rate of exchange (USD).

The policy with respect to BAF will change depending upon how a company or liner conference decides to apply the BAF. The carriers cover basic bunker costs, while BAF is only applied to changes above certain trade specific levels. The relationship between BAF and the actual bunker price has often been debated. Cariou and Wolff (2006) investigated whether a causal relationship can be found between the bunker adjustment factor (BAF) and bunker price and between the freight rate and charter rate on the Europe/Far East container trade. Their results suggest that a Granger causality does exist.

A common way of dealing with BAF is to apply a surcharge following Table 2 that will be adjusted on the first day of each month for that month based on the closing bunker price in Rotterdam on the last weekday of the previous month. The BAF scale is based on the bunker price for IFO 380 grade in Rotterdam. The dollar price will be converted to Euros at the closing rate of exchange in London on the same day (last weekday). If the bunker price goes below E140 per ton, the surcharge will be withdrawn.

Table 2
BAF surcharge percentage for bunker price classes

IFO 380 price level (euro per ton)	BAF IFO surcharge (%)	IFO 380 price level (euro per ton)	BAF surcharge (%)
140 (base level)	2.00	216–220	6.50
141–155	2.50	221–230	7.50
156–165	3.00	231–240	8.00
166–180	3.50	241–250	8.50
181–190	4.50	251–255	9.00
191–200	5.00	256–265	9.50
201–205	5.50	266–270	10.50
206–215	6.00	271–280	11.00

Liner conferences came up with their own way of dealing with BAF. For example, in November 2007 the member lines of the Far Eastern Freight Conference (FEFC) advised shippers that the BAF applicable for January 2008 will amount to USD 482 per TEU to/ from the Mediterranean and West Coast European Region. This equals to more than a third of the freight rate on the dominant westbound leg. The same BAF will apply to the UK, North West Continent, Scandinavia and Baltic Sea Region, plus an additional USD 5 per TEU Low Sulphur Fuel Surcharge. Similarly, the escalating bunker prices during 2007 forced the Trans Atlantic Conference Agreement (TACA) member lines to impose a BAF of no less than USD 607 per TEU (USD 1214 per 40/45 ft. container) for traffic to/from Atlantic/Gulf Coast ports and USD 911 per TEU (USD 1822 per 40/45 ft. container) for traffic to/from Pacific Coast Ports for the period between mid-December 2007 and mid-February 2008.

Maersk Line started the introduction of a new formula for BAF in early 2008 with the aim of creating more transparency. The formula used in the web-based 'Maersk Line BAF Calculator' builds on factors such as fuel consumption, transit time and imbalances in container flows (press communication Maersk Line, 21 January 2008).

3. Sulphur emission control and its impact on bunker costs

The high fuel costs to shipping lines are not only the result of high costs for heavy fuel. Sulphur emissions from shipping are a major and increasing cause of acid downfall which puts a heavy burden on forests, soil and lakes. Sulphate particles may also create health problems in densely populated areas (ENTEC, 2002; EEA, 2002).

Environmental concerns have resulted in strict emission standards in some parts of the world and more regions are expected to follow such policy. This development is contributing to a gradual shift from heavy fuel to bunkers with a low sulphur content, the so-called low sulphur fuel oil (LSFO). Another solution is to fit cleaning equipment on board such as scrubbers and particle filters.

The policy of the European Commission provides a clear example. The Swedish NGO Secretariat on Acid Rain (2005) estimated that a lowering of the sulphur content of marine heavy fuel oil from the average of about 2.7–0.5% in all European sea areas, would reduce total sulphur dioxide emissions from international shipping around Europe by more than three quarters by 2010, as compared to the emission levels of 2000. Following legislation by the European Commission, the first Sulphur Emission Control Area (SECA) came into force on the 22th November 2006 in the Baltic. The next SECA became effective in August 2007 in the North Sea area (European Commission, DG Environment website). The main effect of this EU legislation is to reduce to 1.5% the maximum sulphur content of marine bunker fuel oil consumed within the SECA. In addition, legislation and environmental considerations are causing consumption of High Sulphur Fuel Oil (HSFO) on land to decline. These changes are significant and will have considerable financial and operating implications for the oil refining and marine industries.

The shift from HSFO to LSFO in parts of the world has implications on ship operating costs. When entering a SECA, the vessel will have to switch to another grade of fuel oil. Price information on the differences between low and high sulphur distillate grades is not readily available. Where both low and high sulphur distillates are available, there is a premium of around USD 10 to 15 per metric ton on the low sulphur fuel (ENTEC, 2002). Premiums seem to be highest in certain EU countries including Greece, Germany and Sweden. The relatively low price premiums in newer EU member countries and the rest of the world are probably due to the availability of low sulphur distillates being incidental as opposed to a result of legislative requirements. The installation of SECAs throughout Europe has made some shipping lines impose a new kind of surcharge, i.e. the 'low sulphur surcharge' that ranges between USD 5 and 10 per TEU.

4. Managing bunker consumption levels

Given the increased bunker costs, shipping lines are challenged to keep a tighter control on bunker consumption. This objective has given incentives for initiatives in the field of (1) the use of cheaper grades of bunker fuel, (2) actions in the field of vessel design and (3) actions with regard to the commercial speed of the fleet and the scale of the vessels.

4. 1. Shifts in bunker fuel grades

High fuel costs have made shipping lines look for cheaper alternatives. Cheaper higher-viscosity bunker fuels, such as IFO 420, 500, 600 and 700 grades, are becoming more popular, as the potential savings can be substantial. IFO stands for Intermediate Fuel Oil. The numerical value is the kinematic viscosity of the residual fuel in centistokes (cSt) at 50 °C. IFO 500 is about USD 7-11 cheaper per metric ton than IFO 380, for IFO 700 grade the savings are up to USD 16. The use of high-viscosity bunker fuels, however, is not without complications. The container vessels involved must be able to deal with rougher fuel grades, which often is not the case for older vessels. The higher-viscosity goes with more complex handling issues, but these are more than offset by the savings. Despite an increasing interest in the higher-viscosity grades, however, conventional grades still remain the most popular choice. About 70% of all marine fuel sales (including distillates) in Singapore concerns the conventional IFO 380 grade. In US ports, where higher-viscosity fuels have gained most popularity, the share of IFO 500 remains below 20%.

4.2. Vessel design

To maintain the economic profitability of the vessel, a large focus is nowadays on fuel saving devices in the broadest sense of the word. Vessels lose energy via axial forces. A propeller generates thrust, due to the acceleration of the incoming water. Behind the vessel, the outcoming flow mixes with the environmental flow. Due to turbulence, energy will be lost. There are also frictional losses caused by friction between the water and the propeller blade. And finally a ship encounters rotational losses as the rotation of the blade causes a rotation in the wake too. A number of options are available to improve the efficiency of the propulsion system, depending on the type of propeller and vessel. Propulsion improvements can be realized in the design phase of new vessels or through retrofits to existing vessels. Common improvements relate to propeller polishing and repair of propeller edge damage, a redesign of the current propeller (e.g. a larger propeller diameter in combination with a low rotational speed), rudder adjustments and the conversion of an open propeller to a ducted propeller.

There is a constant search for more fuel efficient vessels through the introduction of more efficient main engines, improved hull forms (e.g. the air lubrication system and improved coating), special devices (e.g. bulbs), more efficient auxiliary machinery, more efficient use of waste energy such as heat, lighter vessels and other innovations in vessel design. Rational energy use is becoming a hot item in the relation between technical specifications and earnings potential. Veenstra and Ludema (2006) demonstrated that the main variable for the shipowner to buy a ship, or to operate a ship on a certain route is earnings potential. The relation between technical specifications and earnings potential is fairly direct: desired earnings potential influences the design specifications, and the specifications of the finished ship determine the earnings potential.

4.3. Vessel speed and vessel scale

This paper focuses on the third way of controlling bunker consumption, i.e. a sound management of the commercial speed of the vessel. Fig. 1 depicts the relation between service speed and fuel consumption for four types of container vessels and nine different service speeds. This figure indicates that an increase in service speed with just a couple of knots already results in a dramatic increase of fuel consumption. For example, increasing service speed from 23 to 26 knots for an 8000 TEU container vessel increases its fuel consumption by as much as 80 tons per day. These are typical figures that might slightly vary depending on factors such as the draft and trim of the vessel, the hull roughness, fouling, propeller condition, sea state, wind force and direction and currents. With current bunker prices of about USD 450 per ton, this translates into a daily cost increase of USD 36,000. For a 12,500–13,000 TEU container vessel, which will become the workhorse on the Far East–Europe trade route within the not too distant future, the daily cost increase would even amount to USD 51,750 when service speed is increased from 23 to 26 knots.

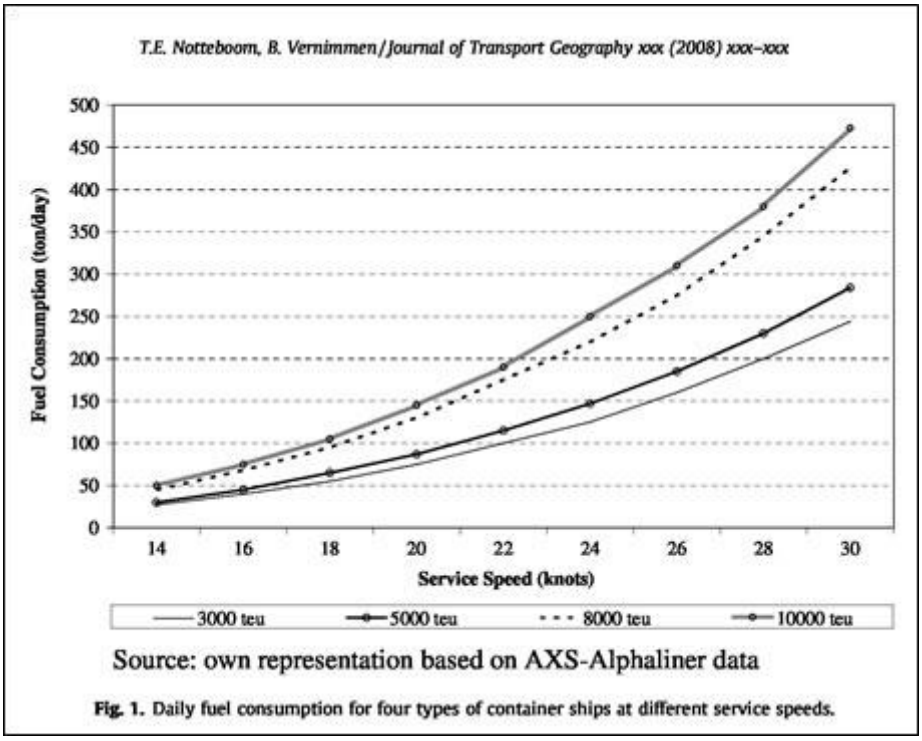

Fig. 1. Daily fuel consumption for four types of container ships at different service speeds.

Table 3 gives an indication of the daily fuel costs at sea (at mid 2006 bunker prices) for three types of container ships and seven different service speeds, as estimated by leading containership classification society Germanischer Lloyd.

As a result of strong growth on the arterial container trade routes in recent years (and nowadays especially on the trade between the Far East and Europe), and in order to anticipate on future volume increases, many shipping lines have embarked upon ambitious expansion plans to upgrade the capacity of their ship fleets. According to AXS-Alphaliner, 3946 cellular containerships were deployed on worldwide trade routes at the beginning 2007, providing a total slot capacity of about 9.6 million TEU (see Table 4). Based on shipping lines' orderbooks as at 01/12/2007, these figures are expected to increase to nearly 5600 ships and 16.1 million TEU, respectively, by January 2011. This equals a massive increase of nearly 70% in just 4 years time, or 13.7% per year. To put this in perspective, the capacity increase of 6.56 million TEU during 2007–2010 means that a stunning 136,000 TEU-slots will be added to the worldwide cellular fleet every month.

Table 3
Fuel costs at sea for three types of container vessels and different service speeds (USD per day) at end-July 2006 bunker prices

Speed (kt)	5000 TEU	8000 TEU	12,000 TEU
14	12,200	16,000	20,700
16	16,800	21,600	27,500
18	23,100	29,000	36,500
20	31,800	39,400	48,700
22	43,700	52,200	64,400
24	59,300	69,400	83,600
26	82,800	96,100	114,700

Source: Germanischer Lloyd.

Given the relentless search for cost savings at sea (cf. economies of scale), it is hardly surprising to see that many shipping lines' expansion plans are heavily focused towards large post-panamax containerships. Whereas at the beginning of 2007 the worldwide fleet consisted of 147 vessels of 7500+ TEU (for a total slot capacity of 1.25 million TEU), these figures are expected to increase to 399 ships and 3.74 million TEU by the beginning of 2011. In other words, the capacity provided by 7500+ TEU ships will triple in 4 years time. As Table 4 indicates, the development of the 10,000+ TEU segment is even more stunning. Whereas just two such ships were in service at the beginning of 2007 (with a combined capacity of some 30,000 TEU), their number will have increased to 91 units by the beginning of 2011, providing more than 1 million TEU-slot capacity.

Table 4
Breakdown of the cellular containership fleet for selected dates

Size range	01/01/2007		01/01/2011[a]		CAGR (TEU capacity)
	No.	TEU	No.	TEU	
>10,000 TEU	2	29,800	91	1094,797	146.2
7500/9999 TEU	145	1223,453	308	2650,218	21.3
5000/7499 TEU	354	2056,329	571	3397,016	13.4
4000/4999 TEU	349	1544,424	605	2668,011	14.6
3000/3999 TEU	282	956,165	391	1333,843	8.7
2000/2999 TEU	650	1635,165	835	2118,080	6.7
1500/1999 TEU	465	784,622	642	1,091,852	8.6
1000/1499 TEU	595	704,570	819	973,327	8.4
500/999 TEU	725	527,983	938	700,120	7.3
100/499 TEU	379	121,243	370	118,516	−0.6
Total	3946	9,583,754	5570	16,145,780	13.9
Average vessel size		2429 TEU		2899 TEU	

Source: AXS-Alphaliner.
[a] Based on orderbook as at 1st December 2007.

The scale increases in vessel size have resulted in lower bunker costs per slot (commercial speed given). At a commercial speed of 22 knots, the bunker cost per day on a 5000 TEU vessel typically amounts to USD 8.7 per TEU-slot, while the bunker costs for a 12.000 TEU vessel reach only USD 5.4 per TEU-slot or a cost saving of 39% (based on data Table 3). The higher the commercial speed, the greater the cost difference. At a speed of 24 knots, the cost difference rises to 41%, while at 18 knots the cost savings are 34%. Deploying larger vessels thus pays off in bunker costs per slot compared to smaller units, even at high commercial speeds. However, the bunker cost issue becomes more complicated when considering liner services instead of individual vessels, as demonstrated in the next sections.

5. Bunkers, vessel speed and liner service design

5.1. Liner service design

Schedule design is a strategic planning problem for shipping lines (Fagerholt, 2004). Before an operator can start with the actual design of a regular container service, he will have to assess the market to be served and the distribution of service demand. This requires an analysis of the number and dispersion of final destinations, the density of cargo flows to/from these inland destinations and the existence of trade imbalances. Once the market to be served has been determined, the service planners need to take decisions on three key inter-related elements.

First, the service frequency. Carriers will try to have at least a weekly service. In doing so, they make a trade-off between frequency and volume on the trunk lines: smaller unit capacities allow more frequent services and as such meet shippers' demand for lower transit times, while larger units will allow operators to benefit from economies of vessel size.

Second, the fleet size, vessel size and fleet mix. The optimal vessel size depends on cargo availability, shippers' needs for transit time or other service elements and the choices made with respect to the other two key variables. As economies of vessel size are more significant on longer distances, the biggest vessels are deployed on the longest routes (see e.g. Cullinane and Khanna, 1999; Lim, 1998), except for the long-haul routes such as Europe-Australasia where smaller volumes urge shipping lines to deploy more modest ships. Carriers have to secure enough vessels to guarantee the desired frequency.

Third, the number of port calls. Limiting the number of port calls will shorten round voyage time and increases the number of round trips per year, thereby minimizing the number of vessels required for that specific liner service. However, fewer ports of call mean poorer

access to more cargo catchment areas. Adding port calls can generate additional revenue if the additional costs from added calls are more than offset by revenue growth.

Carriers design the networks they find convenient to offer, but at the same time they have to provide the services their customers want in terms of frequency, direct accessibility and transit times. This tension between routing and demand lies at the core of liner service design. Liner service design can also depend on getting agreement from alliance members which can be very time-consuming. The lone operator has an advantage here.

The combination of high bunker costs, larger vessels and stringent demands on the associated liner service networks leads to challenges related to dealing with speed issues in liner service design.

The total time needed for a vessel to do a complete round voyage can be formulated as

$$T_r = \sum_{i=1}^{n} T_{pi} + \frac{D}{V \cdot 24} \qquad (1)$$

with Tr is the round voyage time in days; Tpi is the total port time in port i in days; n is the number of ports of call on route; D is the distance of the round voyage in nautical miles (nm); V is the vessel speed in knots.
Given a desired service frequency and a desired number of ships deployed on the liner service, the round voyage time should not exceed a certain threshold:

$$T_r \leqslant \frac{S \cdot 7}{F} \qquad (2)$$

with F is the frequency of the liner service in number of vessel calls per week in each port of call; S is the number of ships deployed on the liner service.
Combining (1) and (2) gives the minimum required vessel speed needed to operate the liner service at a given frequency, number of port calls, roundtrip distance and number of ships:

$$V = \frac{D}{\left(\frac{S \cdot 7}{F} - \sum_{i=1}^{n} T_{pi}\right) \cdot 24} \qquad (3)$$

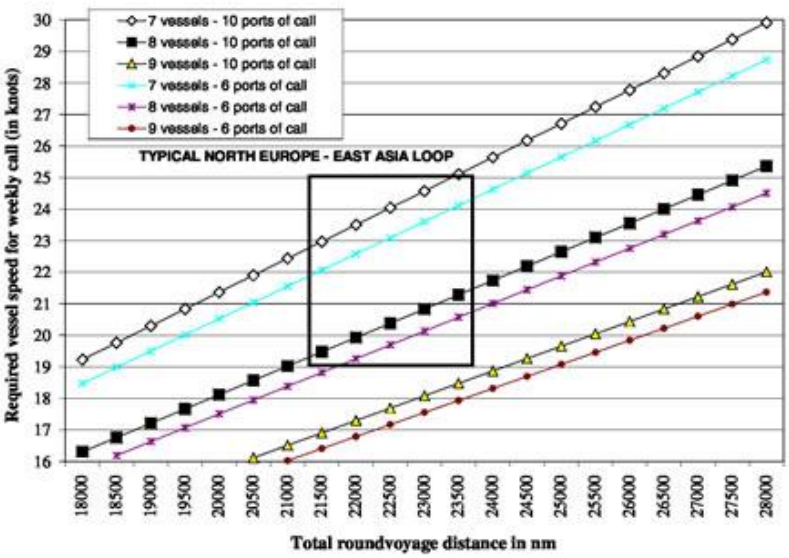

Fig. 2. The relationship between roundtrip distance *D* and required vessel speed *V*.

Fig. 2 gives an overview of the relationship between roundtrip distance and required vessel speed for a given number of vessels and port calls. The average Tpi was set at one day for 10 ports of call and 1.4 days in case of six ports of call (see cost model later in this paper). Fig. 2 represents a best case scenario: it concerns a situation where there are no time buffers in the liner service. In practice, it would be very difficult

to run a liner service on such a tight schedule. Hence, a major threat to liner services lies in increased schedule unreliability. Low schedule integrities can have many causes, ranging from weather conditions, delays in the access to ports (pilotage, towage, locks, tides) to port terminal congestion or even security considerations. Notteboom (2006) demonstrated port terminal congestion is currently the main cause of schedule unreliability by far. Vernimmen et al. (2007) also discussed the causes of liner schedule unreliability and analyzed its impacts on various actors throughout the supply chain. Delays in one port cascade throughout the whole liner service and therefore also affect other ports of call. Table 5 depicts the average schedule integrities on trade routes. For example, on the Far East–Europe trade only 44% of the vessels made it according to their schedule. Among the late arrivals, 50% was 1 day late, 20% two days late, roughly 10% three days late and the remaining 20% four or more days late. Maersk Line recorded an average worldwide schedule integrity of 70%. MSC is amongst the poorest performers with only 41%. MSC keeps time buffers relatively low and tries to solve resulting problems via ad hoc changes to the order of port calls and the seemingly random skipping of one or more ports of call during a round voyage. Alternatively, Maersk Line is more strict in respecting the scheduled times and the order of ports of call. Time buffers are sufficiently high to cope with unexpected disruptions.

Table 5
Schedule integrity of liner services on specific trade routes

Trade route	Percentage of on time vessel arrivals[a] (%)
Schedule reliability per trade route – April–September 2006	
Asia/East Coast South America	46
Asia/Europe/Med	44
Asia/Indian Sub/Mideast/Red Sea	62
Asia/Africa	43
Europe/Med/Africa	41
Europe/Med/Aus/New Zealand	31
Europe/Med/Caribbean/Central America	67
Europe/Med/East Coast South America	62
Europe/Med/Indian Sub/Mideast/Red Sea	46
Europe/Med/North Coast South America	44
Europe/Med/West Coast South America	24
North America/Africa	50
North America/Aus	56
North America/Carribbean/Central America	37
North America/East Coast South America	38
North America/Indian Sub	76
Transatlantic	53
Transpacific	63
Total	53

Source: Based on Drewry (2006).
[a] Ship arrives at the port of destination on the scheduled day or on the day immediately before the scheduled day of arrival.

5.2. Industry's reaction to higher bunker costs

Specialized press reports that shipowners have responded to rising fuel bills with a variety of cost-cutting measures which have included lower vessel speeds and adding new ships to service routes to allow more efficient scheduling (Bunkerworld, November 2006). High bunker prices even broke US Lines as an independent on the transpacific trade and pushed the niche carrier into selling out to partner CMA CGM (Berrill, 2007).

Several shipping lines are adding an extra ship to a number of Asia–Europe loops to deal with high bunker costs and at the same time overcome delays caused by port congestion. The aim is to stop having to sail ships at full speed to catch up lost time and end up burning huge volumes of fuel. Carriers can only slow down by a few knots without damaging ship engines. An increasing number of large container vessels are being ordered with electronically controlled engines that can be operated slower than conventional power units without damage.

In the autumn of 2007 some lines, such as CMA CGM and Maersk Line, decided to reduce service speed and add tonnage. Lloyd's List recently reported that also the New World Alliance lines (APL, HMM and MOL) are to slow down their ships on the Asia–Europe trades in the first quarter of 2008 in order to cut costs by reducing fuel consumption. The consortium plans to deploy nine ships rather than the usual eight in services between Asia

and Europe (Porter, 2007). Vessel capacity is being withdrawn from the Pacific as volume growth slows on that trade lane and will be re-deployed into the Asia–Europe trade where westbound volumes are increasing at annualized rates of around 20%.

Dynaliners reports shipping lines argue that their customers will accept inferior transit times in exchange for improved schedule integrity, resulting from additional buffer allowance. Operating vessels at an economic speed of 20 knots instead of 25 knots would result in a considerable reduction in fuel consumption and an overall operating cost saving. The additional vessels and schedule changes complement other efforts to mitigate fuel costs and reduce the environmental impact of liner services (Dynaliners, 9 November 2007).

6. An application to the Far East–Europe trade

In this section we focus on the Far East–Europe trade route, one of the three arterial East-West container trades where the major share of the fleet of 7000+ TEU vessels is currently being deployed. We first give an overview of the situation as at mid-December 2007 and then compare this with the beginning of 2005. The period early 2005-late 2007 coincides with the period of steep growth in bunker costs. A cost model is introduced in the last sections to simulate the cost impact of vessel speed reduction and the increase in the number of vessels per liner service. The cost model will be applied to a typical liner service on the North Europe–East Asia trade.

6.1. Liner services on the Far East–Europe trade

According to the website of AXS-Alphaliner, some 70 container liner services were offered between ports in the Far East and ports in Europe at mid-December 2007. For the present paper we only focus on the two-way services between the Far East and Northern Europe. We thus exclude dedicated Far East-Mediterranean services, Europe-Asia-ANZ services, or Pendulum services. This leaves us with 32 weekly two-way loops. In the period between February 2005 and December 2007 this trade route witnessed a net addition of 5 two-way services.

6.1.1. Number of port calls

The number of port calls (including double calls) on the 32 services in December 2007 ranges between 8 and 20, with an average of 12.63 and a standard deviation of 2.54. On a geographical basis, the port calls are distributed as shown in Fig. 3.

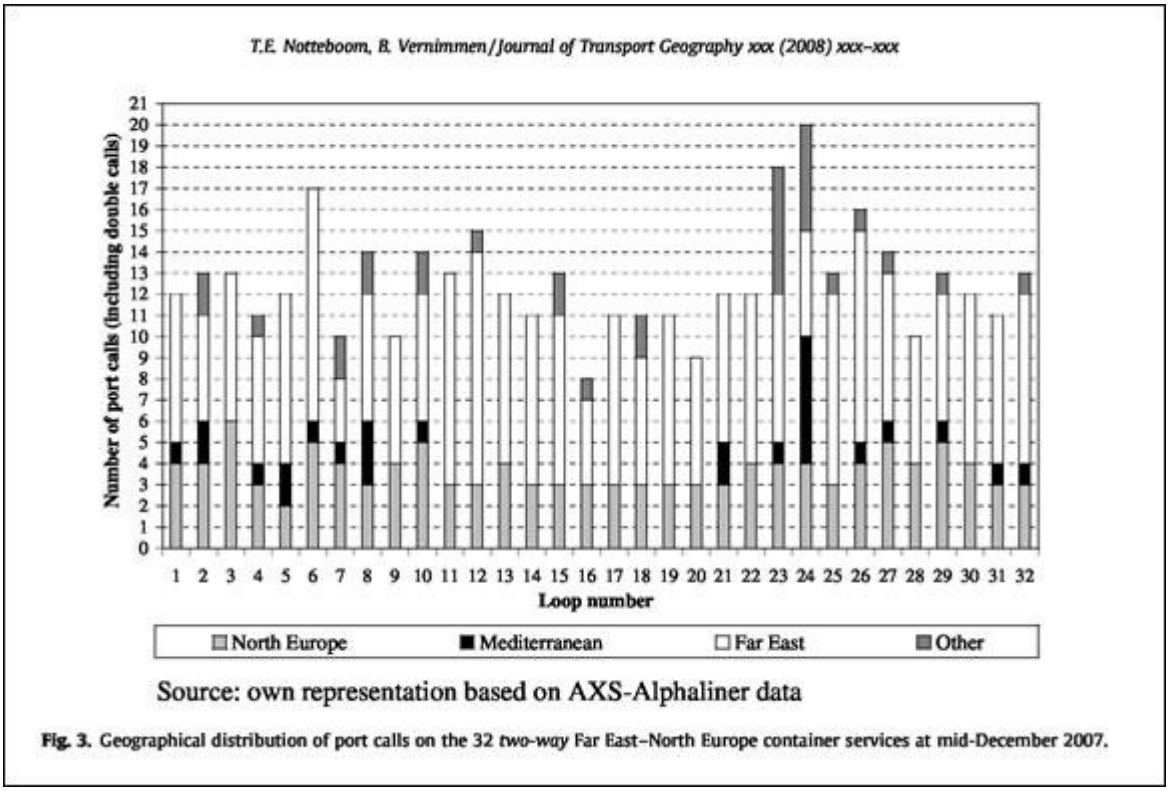

Fig. 3. Geographical distribution of port calls on the 32 *two-way* Far East–North Europe container services at mid-December 2007.

North Europe: The number of port calls ranges between 2 and 6, with an average of 3.66 and standard deviation of 0.87.15 of the 32 services have 3 ports calls in Northern Europe, while 11 services have 4 port calls. The most frequently visited port is Rotterdam, which is included in 25 of the 32 services. For 10 of these 25 services, the Dutch mainport acts as first port of call for vessels arriving in Northern Europe, further underlying its strong market position for westbound cargoes. Rotterdam is closely followed by Hamburg, which is included in 24 services, however for just 2 of them it acts as first port of call in Northern Europe. Both ports enjoy a strong leading position over Le Havre (included in 13 services, of which 6 as first port of call), Antwerp (11/0), Southampton (10/ 6), Felixstowe (10/5), Zeebrugge (7/2), Bremerhaven (6/1), Thamesport (4/0), Amsterdam (2/0) and Dunkirk (1/0). The port of Antwerp is last port of call on eight of the 32 services, which translates into very competitive eastbound transit times and underlines its strong position for eastbound return cargo. A striking (or perhaps not) fact is that the loop with the biggest vessels (the Maersk Line "AE-7" service, deploying 8 x 15,200 TEU units as from early 2008) calls at just two ports in Northern Europe, in this case Rotterdam and Bremerhaven.
Mediterranean: The number of port calls in this region ranges between 0 and 6, with an average of 0.81 and standard deviation of 1.23. Mediterranean ports which are sometimes called at en route from the Far East to Northern Europe (or vice versa) include Algeciras, Barcelona, Beirut, Castellon, Damietta, Genoa, Gioia Tau-ro, Malaga, Marsaxlokk, Misurata, Port Said, Tangiers, Taranto and Valencia. Quite a number of these ports serve as transhipment hubs.

Far East: The number of port calls ranges between 3 and 11, with an average of 7.19 and standard deviation of 1.82. Hence, as is also apparent from Fig. 3, the 32 two-way Far East–North Europe loops include significantly more port calls in the Far East than in Northern Europe. The most frequently visited port in the Far East is the port complex of Shenzhen (comprising Yantian, Shekou and Chiwan) which is included in 25 of the 32

services. Shenzhen is closely followed by Hong Kong (23 services), Singapore (19 services), Shanghai and Ningbo (18 services each). These five ports have a leading position over Port Kelang (11 services), Xiamen (9 services), Busan and Tanjung Pelepas (6 services each), Kobe and Tokyo (4 services each) and Nansha (3 services).

Other (e.g. Near- or Mid-East): the number of port calls ranges between 0 and 6, with an average of 0.97 and standard deviation of 1.43. Ports in this category include Aden, Bandar Abbas, Colombo, Jebel Ali, Jeddah, Khor Fakkan and Salalah.

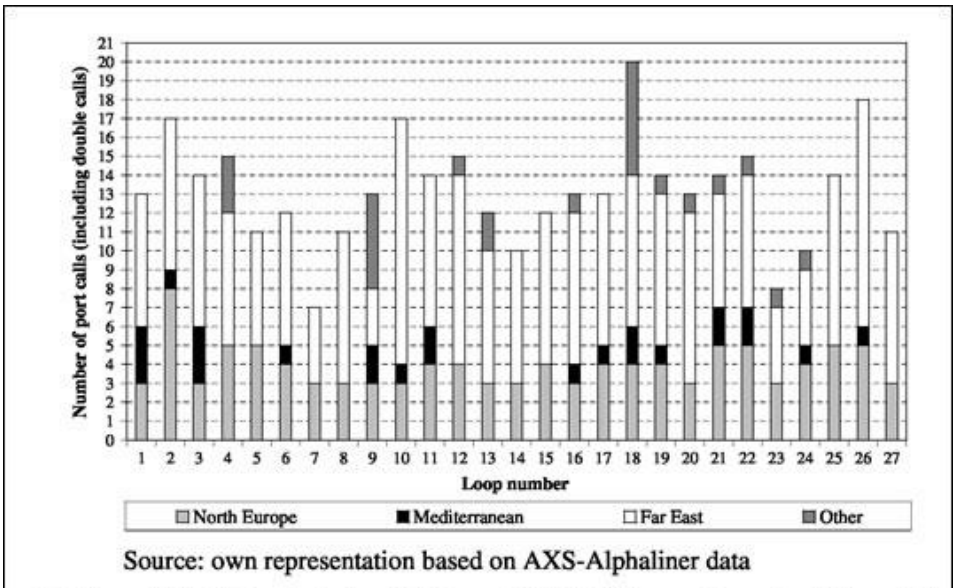

Fig. 4. Geographical distribution of port calls on the 27 *two-way* Far East–North Europe container services in February 2005.

In February 2005, the number of port calls (including double calls) on the 27 services ranged between 7 and 20, with an average of 13.19 and a standard deviation of 2.88. Hence, these figures are slightly higher than in December 2007. On a geographical basis, the port calls are distributed as shown in Fig. 4. The number of port calls in North Europe ranges between 3 and 8, with an average of 3.93 and standard deviation of 1.14. These figures are slightly higher than in December 2007. The number of port calls in the Mediterranean region ranges between 0 and 3, with an average of 0.89 and standard deviation of 0.97. The number of port calls in the Far East ranges between 3 and 13, with an average of 7.48 and standard deviation of 2.21. These figures are again slightly higher than in December 2007.

6.1.2. Number and size of vessels deployed

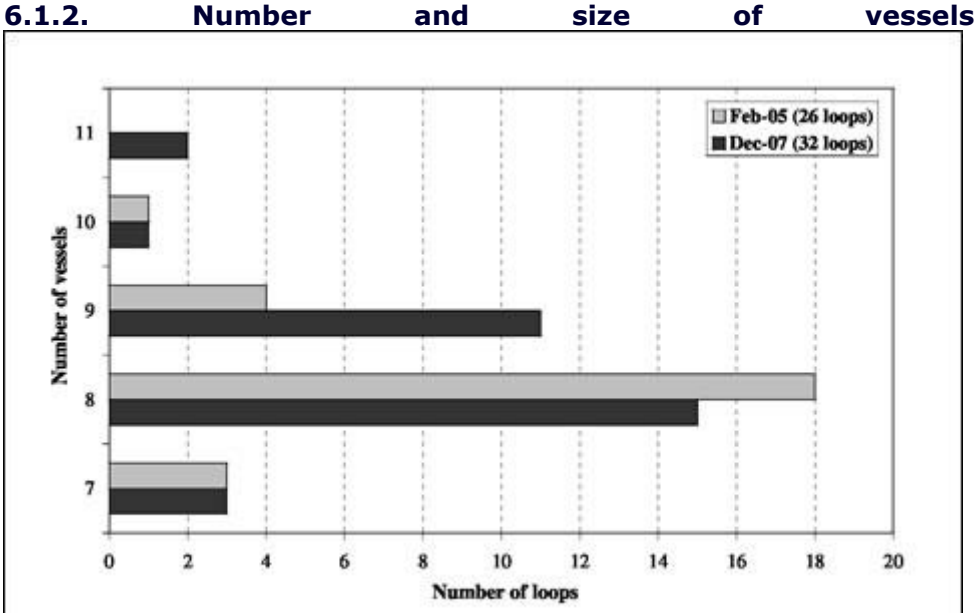

Fig. 5. Vessel deployment on the Far East–North Europe container trade: December 2007 versus February 2005.

In December 2007, the number of vessels deployed on each of the 32 services ranges between 7 and 11 units, with an average of 8.50 and a standard deviation of 0.95. As Fig. 5 indicates, 15 of the 32 Far East–North Europe loops were being run with eight

vessels at mid-December 2007. However, as a combined result of the continuously high bunker price levels during 2007 and schedule integrity problems, a number of carriers have decided to add a ninth ship to their service. As a matter of fact, this has been a very popular measure indeed: no less than 11 Far East–North Europe loops were being run with nine vessels at mid-December 2007, whereas at the beginning of 2005 there were only 4 such loops.

There is a significant difference in the size of vessels deployed on the different loops, with the smallest one and biggest one being 2438 TEU and 15,200 TEU, respectively. Taken on a per loop basis, the average vessel size ranges between 2673 TEU and 14,358 TEU, with an average of 7410 TEU. No other trade lane in the world is currently being characterized by such a high average ship size. Moreover, taking into account the current containership orderbook being heavily focused towards 7500+ TEU vessels, the average ship size on the Far East–Europe trade route is bound to increase significantly in the years to come. This will obviously present huge challenges to many players in the industry (not least the terminal operators and port authorities) and will put enormous pressure on hinterland infrastructure.

In February 2005, the number of vessels deployed ranged between seven and 10 units, with an average of 8.12 and a standard deviation of 0.65. These figures are slightly lower than in December 2007. As Fig. 5 indicates, 18 of the 26 services disposing of a full vessel fleet were being run with eight ships, compared to four services with nine ships and one service with 10 ships. Taken on a per loop basis, the average vessel size ranged between 2576 TEU and 8373 TEU, with an average of 5712 TEU.

Table 6
Key indicators of the Far East–North Europe container trade

	Number of services	Average number of port calls (including double calls)					Avg number of vessels	Avg vessel size (TEU)
		N Eur	Med	Far East	Other	Total		
February 2005	27	3.93	0.89	7.48	0.89	13.19	8.12	5712
December 2007	32	3.66	0.81	7.19	0.97	12.63	8.50	7410

Source: Own calculations based on AXS-Alphaliner data.

Table 6 provides an overview of the key indicators of the Far East–North Europe container trade in February 2005 and December 2007. As this table indicates, the number of two-way services on this trade route increased, but carriers are focusing on a smaller number of port calls. On the other hand, the average number of vessels per service is increasing and this is being accompanied by a significant increase in average vessel size (+30% over the period considered). As a result, terminal operators have to deal with ever-increasing call sizes, obviously putting severe pressure on marine operations and on the hinterland infrastructure.

6.2. Analyzing a liner service on the North Europe–East Asia trade

6.2.1. Round voyage time, number of vessels and vessel speed

For the purpose of this paper, we have opted for a typical liner service on the North Europe–East Asia trade calling at nine ports in Northeast China, Southeast Asia and North Europe. Total scheduled roundtrip time Tr for this AE1 service of Cosco Container Lines is 55.69 days of which over 9 days of port time (Table 7). The maximum allowable roundtrip time for the liner service at eight vessels deployed (S = 8) and a frequency of one call per week (F =1) is 56 (see formula (2) outlined above). This implies the schedule at the current

speed and current number of vessels is very tight and does not allow for any disruptions or delays.

Table 7
Schedule details of the liner service AE1 (based on official schedules)

Port time (days)		
Shanghai		1.02
Dalian		0.56
Qingdao		0.58
Ningbo		0.30
Singapore		0.58
Rotterdam		1.93
Hamburg		2.06
Antwerp		1.17
Singapore		0.54
Hong Kong		0.46
Total port time		9.18
Total roundtrip time (days)	55.69	100.0%
Total port time	9.18	16.5%
Suez Canal	1.42	2.5%
Singapore–Suez	9.54	17.1%
Suez–Singapore	9.45	17.0%
Intra-Asia sailing time	11.33	20.3%
Intra-Europe sailing time	14.77	26.5%
Of which sailing time	45.09	

Source: Authors based on data of Cosco Container Lines.

At a total port time of 9.18 days and eight vessels deployed, the liner service can only be operated comfortably when vessel speed exceeds 22 knots (total sailing time of 44 days, see Table 8), preferably even 23 knots (sailing time of 42 days) to allow for a time buffer of a few days. It is interesting to assess the impact of changes in liner service design.

A reduction of the number of ports of call from nine to seven would in theory reduce the total port time by about 2 days, allowing the carrier to stay below the threshold of 56 days of roundtrip time when reducing vessel speed to 20 knots (48 days of sailing time plus 7 days of port time). In practice, however, only a part of the 2 days port time reduction can be realized as more cargo will have to be handled at each port of call, leading to longer terminal activity per call.

Table 8
Total sailing time at different vessel speeds

	Distance (nm)	Sailing time (in days) at speed (in knots)					
		20	21	22	23	24	25
Shanghai–Dalian	576	1.20	1.14	1.09	1.04	1.00	0.96
Dalian–Qingdao	280	0.58	0.56	0.53	0.51	0.49	0.47
Qingdao–Ningbo	512	1.07	1.02	0.97	0.93	0.89	0.85
Ningbo–Singapore	2143	4.46	4.25	4.06	3.88	3.72	3.57
Singapore–Rotterdam	8353	17.40	16.57	15.82	15.13	14.50	13.92
Rotterdam–Hamburg	318	0.66	0.63	0.60	0.58	0.55	0.53
Hamburg–Antwerp	401	0.84	0.80	0.76	0.73	0.70	0.67
Antwerp–Singapore	8343	17.38	16.55	15.80	15.11	14.48	13.91
Singapore–Hong Kong	1435	2.99	2.85	2.72	2.60	2.49	2.39
Hong Kong–Shanghai	875	1.82	1.74	1.66	1.59	1.52	1.46
Total	23236	48.41	46.10	44.01	42.09	40.34	38.73

Note: The sailing distances are based on Dataloy distance tables.

An increase in the number of vessels has a much higher impact on potential vessel speed reductions. If the shipping line would decide to have nine vessels instead of eight on the loop, then the maximum allowable roundtrip time Tr increases from 56 to 63 days. This would easily allow for a sailing speed of 19 or 20 knots and plenty of time buffers to cope with delays and disruptions. Of course, the cost impact of deploying one more vessel on a loop is more significant than in case of a reduction in the number of port calls. The next section discusses the cost implications of changes in liner service design, with a particular focus on bunker costs.

6.2.2. Cost model for liner service design

In order to have a more detailed insight on this issue, we introduce a cost model consisting of the following cost components:

- Ship costs: these include the vessel operating costs, vessel capital costs, bunker costs and port charges (excluding cargo handling).
- Container costs: these include the cost of supplying containers, container repair and maintenance costs and reefer costs.

- Administrative costs.
- Cargo handling costs including terminal handling costs and cargo claims.

Contrary to Notteboom (2004), the cost model only incorporates maritime-related costs and does not include inland transport costs (pre-haul to port of loading and end-haul from port of discharge), inter-zone repositioning costs or sea-sea transshipment costs (this paper considers a traditional line bundling service). Data were collected on variables such as capital costs, daily running costs, container costs, port dues (sum of towage dues, pilotage dues, traffic control system dues, reporting dues, (un)mooring dues, berth dues and tonnage dues), administrative costs, etc. The bunker consumption at specific vessel speeds and bunker prices were taken from the data introduced earlier in this paper. The cost model builds on earlier conceptual work from Cullinane and Khanna (1999), Baird (2001) and Stopford (1997) which all have included those costs which are a function of ship size. Based on expert information, some general assumptions were made for the North Europe–East Asia trade, irrespective of vessel size: the container mix (57% FEU-slots, 37% TEU-slots and 6% reefer slots) and vessel utilization (95% on the westbound leg and 80% on the eastbound leg). It is assumed that the terminal handling costs per box do not alter with vessel size or route length. The limited fine-tuning and differentiation in the operational cost components are not expected to have a serious impact on the final outcomes.

The total roundtrip distance V is set at 23,200 nm in accordance with the liner service introduced in the previous section. The number of ports (n) equals 10. Three vessel sizes are distinguished: 4000 TEU, 6500 TEU and 9500 TEU. A separate module (including values on average moves per crane per hour, moves per ship call, number of cranes per vessel size and port access time) was used to calculate the average port time for each vessel size and at 10 ports of calls: 0.72 days for a 4000 TEU vessel, 0.94 for a 6500 TEU unit and 1.16 for a vessel of 9500 TEU capacity. At eight ports of call these values would equal to 0.86, 1.13 and 1.4 days, respectively. When the liner service would only include six ports of call the figures would rise to 1.09, 1.46 and 1.82 days, respectively.

Table 9
Cost comparison for different vessel sizes, bunker costs and vessel speed-cost in USD per TEU transported (port-to-port basis)

Cost per TEU transported (USD)	Vessel size and speed								
	4000 TEU			6500 TEU			9500 TEU		
	20 kn	22 kn	24 kn	20 kn	22 kn	24 kn	20 kn	22 kn	24 kn
Bunker cost = USD 450 per ton, round trip = 23,200 nm, 10 ports of call									
Ship costs excluding bunker costs	285	266	251	254	237	224	218	204	193
Bunker costs	252	305	352	208	252	293	190	226	273
Container costs	89	89	89	89	89	89	89	89	89
Administrative costs	33	33	33	28	28	28	28	28	28
Cargo handling costs	142	142	142	142	142	142	142	142	142
Total	801	836	867	721	748	776	667	689	724
% bunker costs in ship costs	47%	53%	58%	45%	52%	57%	47%	53%	59%
% bunker costs in total costs	31%	37%	41%	29%	34%	38%	28%	33%	38%
Total round voyage time (days)	55.6	51.2	47.5	57.7	53.3	49.7	59.9	55.5	51.8
Maximum allowable round voyage time									
at 7 vessels	**49.0**	**49.0**	49.0	**49.0**	**49.0**	**49.0**	**49.0**	**49.0**	**49.0**
at 8 vessels	56.0	56.0	56.0	**56.0**	56.0	56.0	**56.0**	56.0	56.0
at 9 vessels	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0	63.0
Bunker cost = USD 250 per ton, round trip = 23,200 nm, 10 ports of call									
Ship costs excluding Bunker costs	285	266	251	254	237	224	218	204	193
Bunker costs	140	169	196	116	140	163	105	126	151
Container costs	89	89	89	89	89	89	89	89	89
Administrative costs	33	33	33	28	28	28	28	28	28
Cargo handling costs	142	142	142	142	142	142	142	142	142
Total	689	700	711	628	636	645	582	589	603
% bunker costs in ship costs	33%	39%	44%	31%	37%	42%	33%	38%	44%
% bunker costs in total costs	20%	24%	28%	18%	22%	25%	18%	21%	25%

The bold values are not a feasible option.
Source: Cost model results – Notteboom.

Table 9 summarizes the results of the cost model and also includes information on total round voyage time. The bold figures refer to options that are not available to the liner service designer as in these cases the number of vessels is too low to stay below the threshold of the maximum allowable round voyage time (a time buffer of 2 days was included).

The table leads to some important conclusions.

Today, container vessels sailing at 24 knots incur a bunker cost that represents nearly 60% of the total ship costs and up to 40% of the total costs. At a bunker cost of USD 250 per ton these figures were 44% and 28%, respectively. These high percentages are exceptional. Buxton (1985) reported that in the early eighties fuel costs typically made up 50% of ship costs excluding capital charges and cargo handling and 14% of the overall company costs (at a time when the bunker price for IFO180 amounted to around USD 180–190 per ton). The results in Table 9 are also in line with various press reports on the issue. Dynamar recently reported bunker costs now account for two-thirds of voyage operating costs (Dynaliners, 9 November 2007).

Second, the results reveal that the deployment of vessels of 9500 TEU sailing at lower speeds requires 9 vessels, while only 8 smaller ships are needed to guarantee the same weekly call. Scale enlargements in vessels size thus lead to an increasing pressure on shipping lines to increase the number of vessels per loop or to reduce the number of port calls. This is especially felt when high bunker costs urge shipping lines to reduce vessel speed. This conclusion partly explains the observations in Fig. 5 presented earlier in this paper. The deployment of large ships can only be justified, therefore, in tandem with the taking of a decision on their deployment (i.e. frequency and, in particular, the number of port calls). The interdependency between increasing container ship size and the load centre concept has been discussed previously by Cullinane and Khanna (1999) and later elaborated upon in Cullinane and Khanna (2000).

Third, increasing bunker costs put the economies of scale in vessel size in a new perspective. In 2005, when bunker costs amounted to some USD 250 per ton, the cost for transporting a TEU on the North Europe–East Asia trade with a 4000 TEU ship sailing at 22 knots was about the same as the cost for using a 9500 TEU vessel to do the same today. However, this observation does not question the validity of investing in larger scale tonnage. It is the opportunity cost of not making the investment in larger tonnage that is the most salient aspect of the scale issue within this context of rising fuel prices over time.

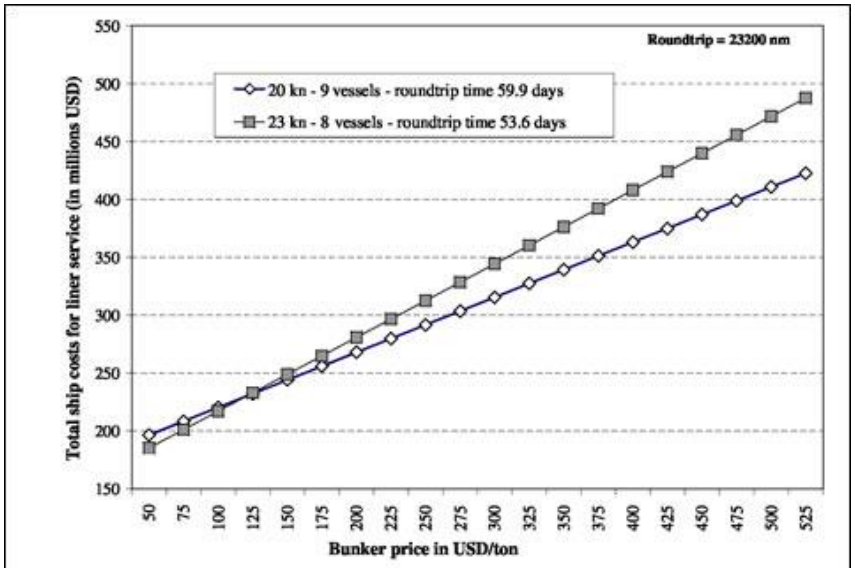

Fig. 6. Total liner service costs as a function of the bunker price. Roundtrip of 23,200 nm and 10 ports of call.

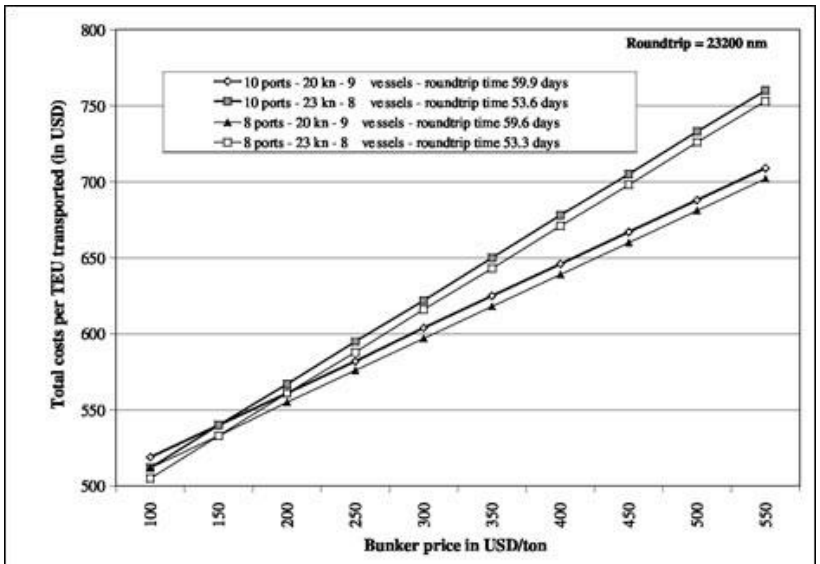

Fig. 7. Total costs per TEU transported as a function of the bunker price. Roundtrip of 23,200 nm.

Figs. 6 and 7 provide more detail on the relationship between bunker price per ton and total liner service costs and costs per TEU transported respectively for the liner service we introduced in Section 6.2.1. The figures reveal that it is interesting for a shipping line to shift from eight to nine vessels and reduce speed from 23 to 20 knots when the fuel price is higher than around USD 150 per ton. Changes in the number of ports of call have only a small impact on the total costs per TEU transported and do not change the USD 150 per ton mark. The carrier can even save costs by increasing the number of port calls from 8 to 10 while increasing the number of vessels from eight to nine as long as the bunker price is higher than USD 200 per ton. At the present fuel rates of around USD 450 per ton, the cost gap has become very significant. As demonstrated in Fig. 5, quite a number of shipping lines have adapted their service schedules accordingly. Still, it remains remarkable why shipping lines have not reduced vessel speed earlier in combination with an increase in the number of vessels. Based on a selected set of interviews with shipping line representatives on the issue, we argue that there are five reasons for the 'late' reaction of carriers.First, shipping lines suffer to some extent from a certain level of inertia in adapting their liner services. They have waited till the cost gap became very significant, before taking action.

Figs. 6 and 7 reveal that for this specific case the shipping line could have already saved on ship costs in 2005 when the bunker rice was reaching USD 250 per ton. However, at that time the cost gap was still not very significant. Most carriers interviewed stated that they did not expect the fuel price to remain so high or become even more elevated. In 2007, shipping lines were continuously facing very high bunker costs and they have come to realize that high bunker costs have become a fact of life requiring structural adaptations to their service schedules.

Second, shipping lines are very eager to offer short transit times to their customers, but slower steaming evidently has a negative impact on transit times. For example, Table 9 revealed that a reduction in vessel speed from 24 to 20 km increases total roundtrip time with about 8 days. The resulting one-way transit time from Asia to Europe is likely to increase by 3–4 days, depending on the positions of the port of loading and discharge in the port of call sequence. So, shipping lines are constantly making a trade-off between high vessel speed/short transit times and the potential cost savings of sailing slower. In the last couple of years it has become apparent that short transit times and schedule integrity are under pressure due to delays in ports and overall port congestion. Time savings gained through an elevated vessel speed are often counterbalanced by time losses in ports and along maritime access routes and straits (see Section 5.1 outlined above). This has made more and more shippers value a high schedule reliability at a slightly longer transit time instead of a scheduled short transit time with a low reliability.

Third, customers are generally not keen on having too many changes in liner service schedules. Regular and reliable services give customers the ability to pre-book slots in advance to match with, for example, their production schedules that are ultimately dependent on their orders and supplies. Thus, to maintain an appropriate market presence and to ensure customer allegiance, liner shipping companies need stability in their schedules. There is a certain reluctance, therefore, to change them in response to short term changes in circumstances. Changes in fuel prices need time before they emerge as long-term trends when liner operators may then feel inclined to react. In any case, inertia will be inevitable because existing (current) schedules and advanced bookings of containers on future ship calls made on the basis of this advertised schedule will restrict the agility of container shipping companies to change the average speed of the vessels deployed on the route. Moreover, alliances take time to change any aspect of service delivery.

Fourth, shipping lines interviewed stated they have come to realize that schedule unreliability is causing additional bunker costs. Hence, when a container vessel is subjected to delays at one side of the trade (e.g. North Europe) then shipping lines used to do everything to get the vessel back on schedule by the time it arrives at the first port of call on the other side of the trade (e.g. East Asia). The associated costs tend to be very high as illustrated in the following example. Assume that a vessel of 9500 TEU capacity operating on the AE1 loop of Cosco incurs a delay of 2 days in European ports. At a vessel speed of 22 knots the total roundtrip time Tr amounts to 55.5 days, just below the threshold of the maximum allowable round voyage time of 56 days (assume eight vessels deployed on loop). In order to guarantee a reliable schedule, Cosco will have to increase vessel speed on the leg between Antwerp (last port of call in Europe) and Singapore (first port of call in Asia). At 22 knots it would take the vessel 15.8 days to reach Singapore. Due to the delay incurred in Europe, the container ship will have to sail to Singapore in 13.8 days in order to get back on schedule, implying an average speed of 25 knots. At 22 knots the bunker costs on the route Antwerp-Singapore amount to USD 1.35 million (190 ton per day at USD 450 per ton), while at 25 knots the bunker costs reach USD 1.71 million (275 ton per day at USD 450 per ton) or an additional USD 357,000 (an extra USD 38 per available TEU-slot). Solving schedule reliability problems thus comes at a high price.

Increasing the number of vessels to nine allows for significant time buffers in liner service operations, allowing shipping lines to cope with potential delays at a lower cost.

Fifth, the traffic boom in China and other Asian countries has urged shipping lines to introduce new liner services and a new generation of large container vessels. Shipping lines typically allocate new vessel units to new liner services or replace the smaller ships in an existing loop (upgrading). Shipping lines typically strive for a well-balanced fleet mix within the individual loops they operate. Large size differences among the vessels operating within the same schedule decrease operational homogeneity. There are however operational and financial barriers to a shockwave increase in vessel size, so the fleet mix might not always be so homogeneous. Upgrading the vessel size on a specific route can take several years and demands huge phased investments. Increasing the number of vessels from eight to nine on a loop further complicates fleet management, both in terms of the required replacement investments on existing loops and the vessel capacity required to introduce a new liner service. For a long time, shipping lines have been reluctant to dedicate new capacity to add vessels to existing loops as the demand for replacement investments was very high in a market where vessel capacity was very tight. A shortage of tonnage over recent years prior to the current building boom limited liner options to quickly add tonnage to each service. In the last year or so, the capacity situation on the Europe – Far East trade eased somewhat due to newbuildings entering the market. This market situation combined with the high bunker costs and port congestion problems made shipping lines allocate a significant share of the total new capacity for the purpose of increasing the number of vessels on a loop. On top of this, the increase of the number of vessels per loop on the Europe-Asia trade has also helped absorb ships that could have been left idle after being withdrawn from the Pacific trades.

7. Conclusions

Bunker costs constitute a considerable expense to container shipping lines. In the last 3 years, bunker prices have risen considerably. An increasing bunker price in container shipping, especially in the short term, is only partially compensated through surcharges to the freight rates and will therefore affect earnings negatively. On top of this, there is new legislation on the use of more expensive low sulphur fuels. Shipping lines are challenged to keep a tighter control on bunker consumption. They can do so by using cheaper grades of bunker fuel, by aiming for fuel efficient vessel designs and by adapting their liner service design in terms of vessel speed, vessel size and number of vessels per loop. This paper focused on the last element by analyzing the impact of increased bunker costs on the design of liner services on the Europe–Far East trade. It was demonstrated that the number of two-way services on the Far East– North Europe container trade increased in the period between February 2005 and December 2007, but carriers are focusing on a smaller number of port calls. On the other hand, the average number of vessels per service is increasing and this is being accompanied by a significant increase in average vessel size (+30% over the period considered). Moreover, shipowners have responded to high fuel bills with a variety of cost-cutting measures which have included lower vessel speeds and adding new ships to service routes to allow more efficient scheduling. Adding an extra ship also helps to overcome delays caused by port congestion. The aim is to stop having to sail ships at full speed to catch up lost time and end up burning large volumes of fuel.

The causality between changes in liner service design and bunker costs is somewhat blurred by schedule integrity concerns. We argue that high bunker costs are giving shipping lines a strong operational incentive to lower vessel speed and increase the time buffers in the liner services by adding an additional vessel. High bunker costs are thus helping to partly solve schedule integrity issues as they trigger a trend to increased time buffers, at

least for the liner service we have analyzed (a liner service where roundtrip time is tight for a given number of ports of call and vessels). The commercial implication of such action is that customers have to be willing to accept inferior transit times in exchange for improved schedule integrity, resulting from additional buffer allowance.

The cost model introduced in the last part of the paper demonstrated (at least for one specific liner service) that the current bunker prices have a significant impact on the costs per TEU even when using large post-panamax units. The model also showed shipping lines are reacting quite late to the higher bunker costs. Based on a series of interviews, we have identified several reasons that explain the late adaptation of liner services: inertia, transittime concerns, increasing costs associated with fixing schedule integrity problems and fleet management issues.

Up to now, the relationship between fuel consumption and liner service design has not drawn a lot of attention in academic circles, while it is a major concern to ship managers and service planners. Further research is needed to analyze the full impact of fuel costs on wider liner service networks and to relate this to the schedule integrity issue. Hence, this paper only discussed individual line bundling services on the Europe–Asia trade calling at several ports at either side of the trade route. The results and conclusions might depend upon the specific route considered. This paper provided no sensitivity analysis with respect to changes in the assumption on route distance. The present study can be extended by analyzing the role of fuel costs at different roundtrip distances. A further extension also consists in assessing the impact of bunker prices and schedule integrity issues on the competitiveness of hub-and-spoke configurations on specific trade relations.

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Inséré le 27/12/14 NIEUWS NOUVELLES Enlevé le 27/01/15

ECAs - More questions than answers

With increasing levels of uncertainty, the problems emerging from the 1st January 2015 ECA sulphur cap are unlikely to go away soon, a leading London broking house said.

Last week, a seminar organised by Norton Rose Fulbright brought together several leading experts from both the tanker industry and the legal side to provide their perspectives.

Putting aside some of the practical issues, such as fuel availability, cost and the adoption of abatement technology to comply with the 0.1% sulphur cap, issues such as compliance and enforcement very much dominated the proceedings, brokers Gibson said in a report.

Ignoring the North American ECA where effectively one administration covers the whole region, non-compliance won't be an option. The US Environment Protection Agency (EPA) will come down heavily on offenders with large fines, vessel detentions and propose to step-up fuel sampling.

However, the situation is remains unclear within the European sphere. The 28 European Union (EU) member states are hastily putting together a common approach to ensure compliance, but according to one source, these measures won't be implemented until March, Gibson said.

The EU has also said that they will monitor penalties imposed by member states for non-compliance as the levels of fines remain the prerogative of each individual state. Historically, within Europe fines for non-compliance with regulations have been far ranging and often punitive in value frequently meaning little more than a slap on the wrist.

Also, there are issues about the legality of these fines. Can an EU member state impose a fine covering just its own territorial waters for non-compliance, or should the penalty include the whole period the vessel has been emitting in the ECA?

The only certainty come January will be uncertainty. Much publicity has been given to fears of a surge in loss of propulsion (LOP) incidents in vessels approaching the ECAs, as ships switch (or blend) from HFO to distillates.

The number of US LOP incidents has increased dramatically as a result of fuel switches. According to Bunkerworld, 60,000 vessels transit the southern entrance of the English Channel and North Sea annually, so there is a real concern about a possible situation of a vessel becoming immobilised.

For tankers, MRs and LR1s will be significantly impacted by the sulphur cap, particularly those engaged on transatlantic trades, which will require vessels to blend into the fuel mix long before entering the ECAs, Gibson said.

Inséré le 29/12/14 Dossier Enlevé le 29/01/15

Seafarer Fatigue And The Implications On Seaworthiness

Fatigue is generally described as a state of feeling tired, weary, or sleepy that results from prolonged mental or physical work, extended periods of anxiety, exposure to harsh environments, or loss of sleep. The result of fatigue is impaired performance and diminished alertness. A common symptom of fatigue is a change in the level of risk that a person accepts, or a tendency to accept lower levels of performance and not correct errors which come about in the course of performing tasks while fatigued. All these could have a significant impact on shipboard operations and personal safety.

Seafarers often work hours that would not be tolerated in any other mode of transport. Safety at sea is seriously compromised by fatigue, with often catastrophic consequences. Some high profile examples of casualties in which seafarer fatigue has been a key causal factor include, the Exxon Valdez, Cita, Jambo, Pasha Bulker, and Thor Gitta, to name a few.

Research carried out with the support of the Trade Union, Nautilus International, claims that:

- A quarter of seafarers say they have fallen asleep while on watch
- Almost half report working 85-hour weeks or more and say that their working hours increased over the last ten years despite regulations being introduced
- Over a third believe that their working hours may pose a danger to the safe operations of their ship

Research also shows how the problems are exacerbated by false record keeping and lack of enforcement of the regulations.If the above statistics are to be believed then it stands to reason that fatigue is causative in far more marine casualties than recorded.On 20 August 2013 new regulations came into force with the implementation of the Maritime Labour Convention 2006 (MLC). These included new regulations regarding the hours of rest for seafarers. Up until then, hours of rest regulations varied throughout the industry depending on which Flag State a ship was registered with. Flag State regulations that were largely based on STCW, and that did not recognise the ILO 180 convention, were open to varied interpretation that enabled Ship Operators and Owners to approach the problem of fatigue with greater convenience, rather than confront it head on. Under the old provisions of STCW, where later legislation was not adopted it was potentially acceptable for a seafarer to work 98 hours per week. Now with the implementation of the MLC, the minimum standard is more universal and it is clear to all that these regulations apply to all seafarers (not just watchkeepers) including the Master.

To summarise the MLC hours of rest regulations, the limits on hours of work or rest shall be as follows:

- Minimum hours of rest shall not be less than ten hours in any 24-hour period
- 77 hours in any seven-day period
- Hours of rest may be divided into no more than two periods, one of which shall be at least six hours in length, and the interval between consecutive periods of rest shall not exceed 14 hours
- The Master shall have the right to suspend the minimum limits on hours of rest and require a seafarer to perform any hours of work necessary for the immediate safety of the ship, persons on board or cargo, or for the purpose of giving assistance to other ships or persons in distress at sea. In such cases, and as soon as practicable after normal conditions have been restored, the Master shall ensure the seafarers are provided with an adequate period of rest

So what does this mean, and how does this affect cargo interests?

The majority of cargoes are carried pursuant to contracts of carriage that contain within them a Hague Rules type regime and hence, amongst other things, an obligation on the carrier to exercise due diligence before and at the commencement of the voyage, to properly man, equip and supply the vessel and to make it seaworthy.

It could be argued that if a ship cannot maintain its commercial schedule and remain safe, with the master and ship's officers and crew having received adequate rest to avoid the onset of fatigue setting in, then that ship should be considered to be undermanned irrespective of what the minimum manning certificate may say. Additionally, it could be argued that a master, officer, or crew member that is fatigued could be considered to be incompetent (temporarily), in that their mental and physical capacity to perform their duties is impaired. Therefore, the carrier could be viewed to have failed to exercise due diligence before and at the commencement of the voyage to properly man the vessel in breach of the Hague/Hague Visby Rules.

Where a casualty has arisen due to the action or inaction of the ship's master, an officer or a crew member and that individual can be said to be fatigued, then it is arguable that the effects of fatigue could be considered to be causative. In such an event and where cargo interests are seeking to recover their losses against the carrier, it stands to reason that the hours of rest records of the ships complement are documents that should be sought and inspected as a matter of course. Furthermore, in light of the research findings that indicate false record keeping being an endemic problem within the industry, then these documents should not be inspected in isolation but compared with other documents such as log books and even e-mail chronology, to confirm that the hours of rest records are accurate.

The ISM Code (International Management Code for the Safe Operation of Ships and for Pollution Prevention) places a very clear responsibility on the company to monitor its safety management system which will incorporate within it the hours of rest regulations. The company must also keep records to this effect in order to fulfil external auditing requirements. Thus the errant shipowner who turns a blind eye to practices such as the false record keeping of the hours of rest will no longer be able to hide behind a veil of ignorance and present this as his defence. To date, there are no reported judgments to form a precedent in order to back up an argument that a ship is unseaworthy as a result of seafarer fatigue. However, P&I Clubs and ship owners alike would be very uncomfortable arguing otherwise in an open court, particularly given the sensitivity of the subject within the maritime industry. When confronted with evidence alluding to this point, recent experience has shown that a settlement offer, favourably weighted towards cargo interests, is a more likely outcome.

Source: Clyde & Co

Inséré le 31/12/14 BOEKEN LIVRES Enlevé le 31/01/15

"Scheepvaart 2013-2014"

B O E K B E S P R E K I N G door : Frank NEYTS.

Bij **Uitgeversmaatschappij De Alk** verscheen onlangs de recentste editie van het jaarboek "**Scheepvaart 2013-2014**". Het werd samengesteld door **G.J. De Boer.** Het

boek biedt een diepgaand overzicht van alles wat reilt en zeilt in de scheepvaartsector in de lage landen. Na een grondige evaluatie en overzicht van de toestand van het internationale scheepvaartgebeuren als inleiding, bespreekt het boek rederijen, scheepswerven, en de maritieme sector van Nederland, België en Luxemburg gesitueerd in een internationaal kader. Ook de marine komt aan bod. Het boek geeft een compleet overzicht van alle schepen van Nederlandse, Belgishe en Luxemburgse rederijen en alle hierover beschikbare gegevens. Bovendien is het boek geïllustreerd met talrijke mooie keurenfoto's. Ook dit jaar werd het boek op A4-formaat uitgeven.

Net als de vorige uitgaves bevat "**Scheepvaart 2013-2014**" een schat aan informatie waardoor een dikke aanrader voor iedereen die hoe dan ook maar iets met 'onze' scheepvaart te maken heeft. "**Scheepvaart 2013-2014**" (ISBN 978-90-6013-385-9) telt 544 pagina's en werd als softback uitgegeven. Het boek kost 49.90 euro. Aankopen kan via de boekhandel of rechtstreeks bij **Uitgeverij De Alk,** Postbus 9006, 1800 GA Alkmaar. Tel. +32(0)72-5113965, www.alk.nl . In Belgie wordt het boek verdeeld door Agora Uitgeverscentrum, Aalst/Erembodegem. Tel. 053/76.72.26, Fax 053/78.26.91, E-mail: info@agorabooks.com

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Inséré le 31/12/14 Nouvelle Nieuws Enlevé le 31/01/15

The new cold war

New shipping rules are being worked out for the Arctic, where summer sea ice has shrunk by about two-thirds over three decades. Predictions by various models say the summer-time Arctic sea ice could disappear completely by 2050. The 'Polar Code', expected to boost traffic in the region, will have stringent rules on pollution.

The Northern Sea Route along Russia's edge, that is likely to be free of ice first, can reduce the sailing distance between Asian ports and northern Europe by 40 per cent. The other major Arctic shipping route is the Northwest Passage, which connects Europe and Asia. It is nearly 5,000 nautical miles shorter than the 12,600 nautical mile distance between Europe and Asia through the Panama Canal. In the summer of 2007, satellite images recorded a period of ice-free water along the Northwest Passage for the first time.

Right now, there are no international conventions regulating Arctic shipping operations. Rules may come into force by 2016.

Only 71 ships crossed the Northern Sea Route last year, compared to the 18,000 handled by the Suez Canal, but about a 1,000 vessels travelled into the high Arctic (above 72 degrees north), with much of the growth coming from oil and gas activity, particularly in Russia.

The current situation

As of 2010, most Arctic shipping routes were ice-free for only about 30 days. The commercial shipping route is currently open for only about four months a year.

The concern

Distribution : daily to 28550+ active addresses 18-02-2014 Page 6 The code does not deal with the problem of ballast water discharge, which often introduces non-native species to a region, and continues to allow vessels to use heavy fuel oil, a potential pollutant.

Who is seeking what

Russia submitted its initial claim to the North Pole, and 7,40,000 sq km of surrounding territory, to the UN in 2001. On November 27, 2006, Norway became the second and only other Arctic nation besides Russia to submit an extended continental shelf claim.

In December 2013, Canada said it would claim the North Pole, around 800 km north of Alert, Nunavut, the country's — and the world's — northernmost settlement, provoking threats of military deployment by Moscow. Geographically, Denmark is not within the Arctic region. However, because of its territory, Greenland, and its province, the Faroe Islands, its potential claims to the Arctic extend from Greenland up to the North Pole, via the potentially oil-rich Lomonosov Ridge.

Since international law only allows countries to extend their territory 200 km offshore, the claims are based on some creative interpretations of where the land masses end. All argue that mountain ranges that criss-cross the floor of the Arctic Ocean are extensions of their own continental shelves. It is up to the UN to adjudicate.

Who's gone farthest

On August 2, 2007, two Russian submersible vessels descended to the Arctic seabed beneath the North Pole, in first-ever such exercise, and placed a Russian flag there. The primary mission of Russia's icebreakers has been to ensure year-round navigability of the Northern Sea Route, which is used to deliver oil and gas equipment to Siberia and extract raw materials. The first such icebreaker was built at a Leningrad shipyard in 1959.

China is round the corner

Beijing wants the Arctic to be internationalised like the Antarctic. Since being admitted to the Arctic Council, it has invested heavily in polar research and launched initiatives with Russia, Sweden, Finland and Iceland to expand trade and investment. China is already operating in Greenland, while China National Petroleum Corporation has signed deals with Russia's Rosneft to explore oil and gas fields in the Arctic.

Alfons Hakans tug **JASON** during icebreaking operations in Uusikaupunki

Where does India stand

It held its first Arctic expedition in 2007 and established its own scientific research station at Ny-Alesund, Spitzbergen. India is planning to acquire an icebreaker for scientific and business expeditions.

Inséré le 02/01/02 HISTORIEK HISTORIQUE Enlevé le 02/02/15

Honderd jaar na een Koning

De geschiedenis van een land zal wellicht glorievolle bladzijden tellen, maar steeds zal ze ons rijker maken door haar lessen.

In dit jaar 1965, herdenkt onzebevolking het afsterven van haar eerste Koning en de troonsbestijging van zijn opvolger Het is een gelegenheid om een terugblik te werpen op de grondslagen van onze ekonomie, alsook op de oorsprong van onze welvaart en om de ekonomische politiek te bepalen welke door deze onder vinding wordt gedetermineerd.

Er is, op dat gebied, een sektor die, bij het ontstaan van onze onafhankelijkheid, de aandacht der hogere macht bezig hield, en die, later, enkel een gematigde officiële zorg verwerven kon; het is het maritiem domein, in 't bijzonder de koopvaardij, waarvan de Belgen, nu, stilaan, de waarde beginnen u, beseffen. Deze brochure, door het Nationaal Comité voor Zeevaartpropaganda uitgegeven, heeft tot doel onze huidige positie in dit verband vast te leggen. Enkele brede trekken over de evolutie van de Belgische marine zullen de hardnekkige inspanning belichten die door enkele vooraanstaande leiders sedert 135 jaar werd geleverd, hun vergissingen en hun successen in de onverpoosde pogingen om de rijkdom der zee voor het Land te bemachtigen.

Talrijk zijn de lessen die we kunnen putten uit het oude, rijke verleden van onze gewesten, om het onheil te begrijpen dat deze streken zo dikwijls overrompeld heeft, wegens het particularisme van onze bevolking. Voor onze uiteenzetting, lijkt het voldoende te herinneren aan de eerste pogingen van het scheepvaartbedrijf, vanaf het ogenblik dat de Schelde, na een lethargie van 250 jaar, door de Franse revolutie bevrijd werd.

Na zijn bezoek te Antwerpen, op 18 juli 1803, deed Bonaparte enkele miljoenen besteden aan de bouw van scheepswerven, de inrichting van een militaire vloot en het graven van de eerste twee dokken. De werken hadden een tijdelijke invloed op scheepvaartgebied, niettegenstaande het feit dat Engeland de blokkade van de Schelde uitgeroepen had. In die tijd ontstond ook de moderne nijverheid : John Cockerill te Luik en Lieven Bauwens te Gent hechtten hun naam aan de mechanische constructie en aan de katoennijverheid.

Wanneer in een algemene ellende van Europa, het Franse Keizerrijk ineenstort, zal het Congres van Wenen de unie Noord- en Zuid-Nederland verwezenlijken. Op dat ogenblik bevond de Belgische nijverheid zich in volle crisis. Een dubbel probleem stelde zich dan voor de regering van Koning Willem I : de handel van het noorderlijk gedeelte eiste liberale maatregelen om uitvoer en scheepvaart te bevorderen en de fabrieken van de zuidelijke provincies vergden hulp en bescherming tegen de vreemde invoer.

Voor de handel verscheen een koninklijk besluit van 1818 dat een maatschappij voor handel en scheepvaart in het leven riep en dat de aankoop, de uitrusting en het bevrachten van schepen voor de trafiek op Oost-Indië voorzag. Daarenboven zouden wetten van 1821 en 1822 een gunstig en beschermend regime invoeren voor het vervoer van goederen onder Nederlandse vlag.

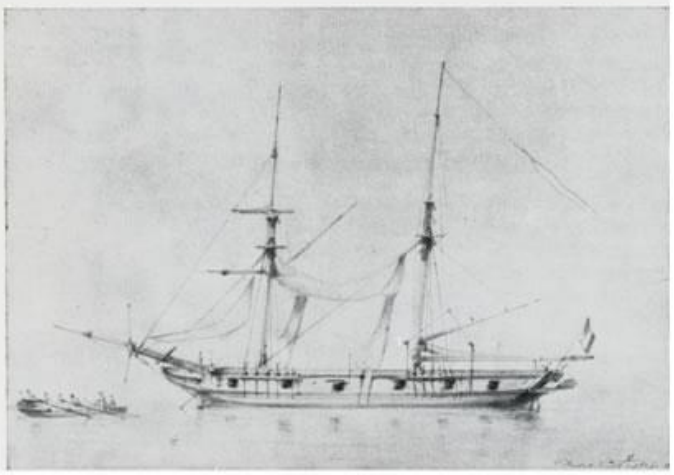
Voor de nijverheid werd, door een wet van 1821, een bijzonder fonds aangelegd om de onvoldoend gesteunde fabrieken te helpen. In 1822 kwam de meest doeltreffende maatregel; te Brussel werd de « Algemene Nederlandse Maatschappij ter begunstiging der Volksvlijt » opgericht (later « Societe Générale de Belgique » genoemd). Dit initiatief had een sterke invloed op de ekonomische toekomst van het land. Kort nadien, op 29 maart 1824, zou Koning Willem een nieuwe maatschappij in den Haag in het leven roepen, een handelmaatschappij, die de scheepsbouw, de rederijen en de fabrieken zou steunen, en zo de uitbreiding der buitenlandse markten in de hand zou werken. De zaken der maatschappij waren voorspoedig.

De expansie nam haar vlucht vanaf 1825. De koopvaardij kwam terug tot leven. In 1829 telde de vloot in de Belgische havens 182 eenheden. Datzelfde jaar ontving Antwerpen 1.028 schepen met een tonnenmaat van 161.000 ton. De materiële voorspoed vestigde zich in onze streken; de industriële vooruitgang nam toe. Alles liet voorzien dat Antwerpen de eerste haven van het verenigd rijk zou worden; zij had de meest moderne uitrusting van het Continent. De Schelde was een goed bevaarbare stroom, terwijl de toegangswegen van Amsterdam en Rotterdam, zich wegens aanzanding in een slechte toestand bevonden.

Deze tweede heropleving, die te danken was aan de doeltreffende maatregelen die door de openbare macht genomen werden, stortte plotseling ineen met de septemberdagen van 1830.

Tien maanden later op 21 juli 1831 besteeg Leopold I de troon. De toestand van het land was angstwekkend. Een Nederlands smaldeel bezette de Schelde ; Willem I had zijn leger heringericht; 28 duizend man lagen ten noorden van Turnhout en Chassé begon Antwerpen te beschieten vanaf de 2e augustus.

Op 14 augustus was de rampspoedige strijd der Tien Dagen geëindigd. Het Traktaat der XXIV artikelen van 14 oktober, onttrok ons twee provincies waarvan de toekomst de ondergrondse rijkdom zou aantonen.



"Louise Marie"

Met vastberadenheid gaf Leopold zijn impuls aan de organisatie van het land en aan de ekonomische en militaire verdediging ervan. Hij bereikte zijn doel, niettegenstaande het verzet van sommige parlementsleden, verzet dat hem trouwens tot toegevingen zou leiden op andere domeinen.

Twee middelen werden terzelfdertijd door hem aangewend ter verwezenlijking van zijn expansie-programa. Een militaire marine zou de verdediging der territoriale wateren verzekeren en terzelfdertijd buitenlandse markten opzoeken. Een koopvaardijvloot zou deze markten met het moederland verbinden; de nijverheid zou hierdoor gesteund worden door het toenemen der bestellingen uit de verre gewesten.

De Koning nam op 27 april 1832 een besluit tot oprichting van een « Compagnie der Zeelieden » en, op 30 april, een ander besluit dat de bewapening en de indienststelling voorzag van twee brigantijnen, die de Voorlopige Regering besteld had aan een Boomse scheepswerf, in februari 1831. Dit was het begin der Koninklijke Marine.

Te Antwerpen bevonden zich enkele schepen voor de grote vaart, maar de reders waren in de onmogelijkheid een bemanning ter plaatse aan te monsteren. Een gedeelte der kaders van de Koninklijke Marine werd te hunner beschikking gesteld vanaf 1834. Dertien expedities werden uitgerust voor de Grote Indiën tot in het jaar 1848; andere reizen waren even voorspoedig, in dezelfde voorwaarden van bemanningssteun en toewijzing van premiën, namelijk voor Algiers, Malta en Tunesie, alsook voor Brazilië.

Deze eerste pogingen van expansie hadden gunstige gevolgen; het Land stond uit zijn verlamming op; de nijverheid breidde zich uit; de haven van Antwerpen ontving het bezoek van meer schepen dan in 1829; in 1840 was de koopvaardijvloot heringericht met 161 schepen.

Toch was die eerste zet onvoldoende. Reeds van 1835 af kwamen stemmen op in het parlement; en in 1844 werden differentiële rechten ingevoerd in het voordeel van de Belgische vlag.

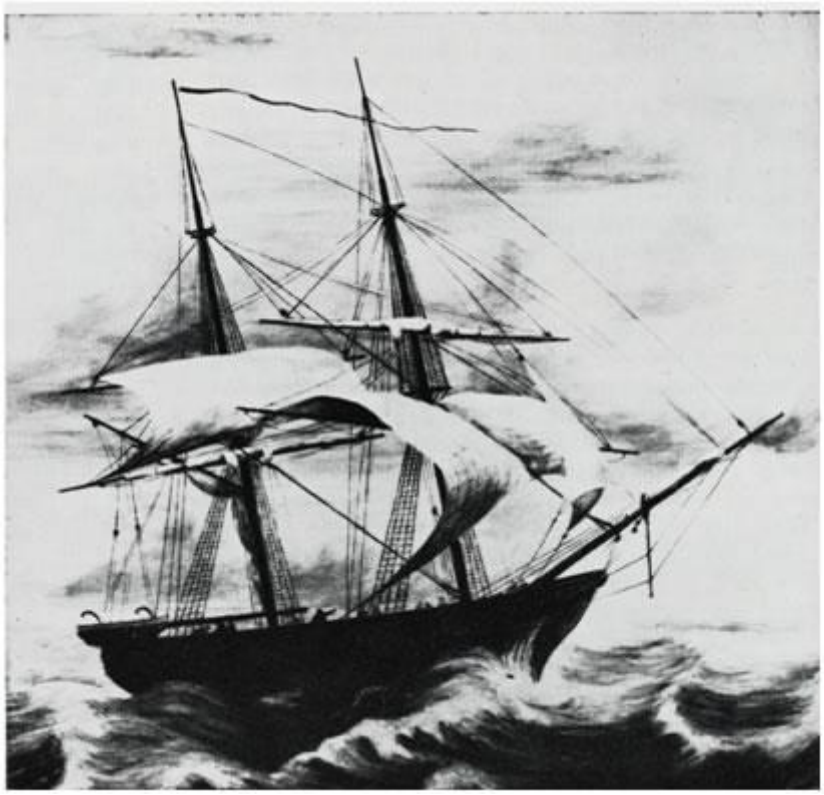
Ondertussen kwam de scheepsbouw aan de beurt. Willem I had destijds premiën toegezegd; zij werden wederom ingevoerd door de wet van 7 januari 1837; in een tijdspanne van twaalf jaar bereikten zij 800.000 goudfrank voor tachtig schepen.

De opleiding der zeelieden werd aangemoedigd. Begin 1837 werd de « Clotilde » van reder P.). Spilliaerdt te dien einde gecharterd; in 1839 werd een kotter van het loodswezen insgelijks bestemd voor deze opleiding; in dit zelfde jaar werden ook enkele Belgische kadetten ingescheept op « l'Oriental », Frans opleidingsschip, dat ongelukkiglijk op de kusten van Chili verging.

Deze periode wordt gekenmerkt door angstwekkende problemen. De stijging van de levensduurte gaat gepaard met een crisis in de vlasnijverheid ; de ellende neemt toe; het getal der werklozen stijgt in een kort tijdperk, van 1840 tot 1850, van 400.000 tot 900.000 man op een bevolking van 4.337.189 in 1846; in de landbouwstreek leeft een derde der huishoudens van de liefdadigheid. België verliest twee van zijn provinciën in 1839 en, in 1840, komt een einde aan de « Entente Cordiale » tussen Engeland en Frankrijk; de vijandschap tussen de twee landen kan voor onze onafhankelijkheid noodlottig worden.

Dan zien wij Leopold I zijn persoonlijke invloed uitoefenen in Europa; hangende problemen met Nedeland in verband met grenzen en scheepvaartregelingen worden geregeld in 1842 en 1843, en hij geeft een nieuwe impuls aan de expansie ter zee.

Gedurende vijftien jaar zal de Koninklijke Marine zich inspannen om factorijen en werkkolonies op te richten. De schoener « Louise-Marie » werd op 13 maart 1840 in dienst gesteld gevolgd, in 1844, door de brik « Duc de Brabant ». In vele mogelijkheden die in overweging konden genomen worden met het oog op het veroveren van vreemde markten, werden, door beide schepen, twee pogingen gedaan die tot een zekere verwezenlijking konden komen.



"Duc de Brabant"

De eerste expeditie was deze in Guatemala. Hier had een Belgische maatschappij een belangrijke concessie bekomen in een streek gelegen te Santo Toma. De « Louise-Marie » werd, in november 1841, ter plaatse gestuurd om de toekomstmogelijkheden der concessie te onderzoeken; een tweede reis naar de baai van Honduras volgde op 5 mei 1843. Tijdens de overvaart stierf de aangestelde directeur der kolonie, P. Simons, de voorname bouwer van het eerste Belgisch spoorwegnet. Zijn verdwijning zal een noodlottige invloed hebben op de toekomst der pasgeboren kolonie. De slechte sanitaire toestand heeft weldra erge gevolgen voor de uitgeweken werklieden. De onderneming, met onvoldoende financiële en bestuursmiddelen, zal enkele jaren kwijnen en daarna verdwijnen.

Alvorens een tweede poging tot kolonisatie te herinneren, die de meeste kans had te overleven, verdient een ander initiatief een bijzondere vermelding, dat van Santa Catharina in Brazilië, dat niet afhankelijk was van de hulp van de Koninklijke Marine. In opdracht van een « Société de Commerce brugeoise » was de brik « Jan van Eyck » uit Brugge vertrokken, op 26 augustus 1844, met 111 uitwijkelingen. De commandant van de « Duc de Brabant » kon, op einde 1847, vaststellen dat, aan de kusten van Zuid-Amerika, een zeker aantal Belgische schepen voeren en dat de vooruitzichten voor de handel met de naburige landen gunstig waren. In 1855 kon de commandant van de « Duc de Brabant » nogmaals vernemen dat de kolonisten voorspoedig leefden.

Wat nu onze eerste kolonisatiepoging in Afrika betreft deze van de Rio Nunez mochten de vooruitzichten als gunstig worden bestempeld.

De schoener « Louise-Marie » ondernam, van 1847 tot 1856, zeven reizen naar deze eerste kolonie op de westkust van Afrika. Tijdens zijn verblijf in 1847, kon commandant van Haverbeke een verdrag afsluiten met de koning der Nalous die, in volle eigendom, de twee oevers van de rivier Rio Nunez aan de koning der Belgen overmaakte. De bezetting van het land greep plaats. De positie van ons land werd nog versterkt na een overwinning op een naburige stam; tijdens de gevechten werd luitenant Dufour tweemaal gekwetst.

De handelsbetrekkingen met dit deel van Afrika konden zich ontwikkelen; later kwijnden zij echter weg door plaatselijke moeilijkheden. De radikale veranderingen die zich alsdan zullen voordoen in de ekonomische politiek der Europese staten, zullen voor gevolg hebben dat die poging hetzelfde lot zal ondergaan als de vroegere expedities. Toen van Haverbeke de 7de reis van de « Louise-Marie » naar de Rio Nunez, in 1855, geëindigd had, stond in zijn verslag dat in de Loanga, in de Congo en in het Koninkrijk van Angola, zeer rijke en overvloedige ijzer-, koper- en zilvermijnen bestonden. Dergelijke inlichtingen hebben

beslist de gedachte van de Koning gekeerd naar het veelbelovende Afrika. En toen reeds besteedde zijn zoon, de toekomstige Leopold II, zijn aandacht aan de expansie van het Land.

In dezelfde tijd van de koloniale expedities, ging de bezorgdheid van Leopold I naar de inrichting van een net van regelmatige zeevaartlijnen. De initiatiteven die genomen werden, hadden sinds 1841 goede uitslagen gehad. Dank zij de premiën die uitgekeerd werden, konden, buiten de reizen naar Oost-Indië en soms naar China, ook diensten ingericht worden naar Rio de Janeiro en Valparaiso, in 1841; tussen Antwerpen en New York, in 1843; Antwerpen en Vera Cruz in hetzelfde jaar; tijdens het volgende jaar, Antwerpen-Constantinopel, Smyrna, Syrië en Athene; in 1847 kwam ook nog een dienst op Santo Toma; en in 1848 op Galats Ibrail, alsook op Algiers en Alexandrië.

De regering volgde een doeltreffende maritieme politiek met de aanbesteding van regelmatige lijnen, toe zegging van premiën en toekenning van bemanningen.

Onder de impuls van de Koning, zal België één der eerste landen zijn die de stoomvaart zal aanmoedigen.

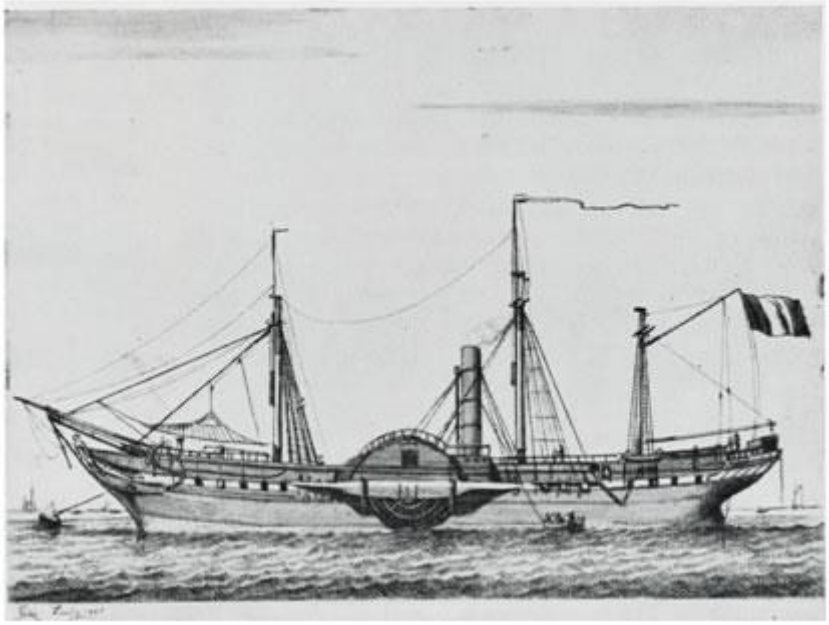
Daar de Verenigde Staten van Amerika voor onze nijveraars en werklieden een voornaam afzetgebied waren, werd een vaste lijn ingericht tussen Antwerpen en New York. Twee stoomschepen, de « British Queen » en de « President », werden van een Engels-Amerikaanse maatschappij aangekocht en ten dienste gesteld van een uitbatingsmaatschappij door HH. Cateaux - Wattel, Joly en Lejeune gesticht op 16 april 1841. Enkel de « British Queen » kon in de vaart gebracht worden. Eyckholt van de Koninklijke Marine kreeg het bevel, bij haar tweede reis, over dit voor die tijd reuzeschip van 2.016 ton, drie dekken, 234 voet lang, en 37 breed. De uitbatingsverliezen, veroorzaakt door de verzending met zeilschepen van Belgische kolen voor de bevoorrading der machines bij de terugreis, liepen zo hoog op, dat dit kortstondig avontuur door de regering gelikwideerd werd.

In dezelfde richting boekte een ander initiatief van de Staat nochtans een merkwaardig succes; te weten : de vaste verbinding tussen België en Engeland. Door de wet van 9 juli 1845 werd de Koninklijke Marine belast. een dagelijkse dienst tussen Oostende en Dover in te voeren. Dit was het begin van een buitengewone uitbreiding van reizigers post- en pakketvervoer, dat zich tijdens 120 jaar ontwikkelde met de meest vermetele technische initiatieven, snelheidsrecords met motor en turbines, alle nieuwe verbeteringen en uitvindingen voor de installaties aan boord en voor de scheepvaartinstrumenten. De opgang van deze dienst is fantastisch te noemen. Heden schommelt het getal per jaar ingescheepte reizigers rond het anderhalf miljoen, met meer dan 3.500 overvaarten. Op einde december 1847, bestond de Belgische vloot uit 135 schepen met een totaal van 26.684 netto ton. Antwerpen kreeg het bezoek van 1.919 zeeschepen met een totaal van 529.619 ton. De Belgische schepen en de Belgische havens hadden de maritieme bedrijvigheid van het land doen herleven.

Op dat ogenblik zou de afschaffing door Groot-Brittannië, in 1849, van de « Navigation Act » van Cromwell, een radicale kentering brengen in de internationale handel ter zee. Nu ontstaat een tijdperk van vrijheid en eerlijke mededinging op alle zeeën der wereld. Groot-Brittannië kon dergelijke politiek invoeren; het bezat een net van regelmatige lijnen naar alle bekende landen; het eeuwenoude monopolie van het vervoer in zijn keizerrijk had het de voornaamste markten der wereld opengelegd. In 't bijzonder moest dergelijke politiek zijn toenemende nijverheidsproductie een open weg banen bij de mededingende Eurpese landen.

België had maatregelen getroffen tegen de vreemde discriminatie; het was verplicht zijn politiek radikaal te veranderen. Een handelsverdrag van 1851 met Engeland zou een dodelijke slag brengen aan het opgebouwde voorkeurstelsel dat de nationale vloot

begunstigde. Alle steun aan de koopvaardij en de scheepsbouw werd opgeheven. Op datzelfde tijdstip komen in de zeevaart geweldige technische veranderingen : het ijzer vervangt het hout der casco's, de stoom verdringt het zeil. Daarbij komt nog dat de grote scheepvaartmaatschappijen worden opgericht, dat de oudere marines worden versterkt en dat de havens een spectaculaire vlucht nemen.



"British Queen"

In België was 1848 een beangstigend jaar. De oproer te Parijs deed een revolutionaire geest waaien over Europa. Leopold I reageerde onmiddellijk; de nodige maatregelen worden getroffen om het Land te verdedigen. Een wet van 8 juni 1853 brengt de legersterkte op 100.000 man. Het gevaar dreef voorbij. Napoleon's droom om, met de steun van Bismarck, België in te palmen, kreeg geen kans. Maar Leopold I was verplicht om de medewerking van regering en parlement te bekomen, een behendige diplomatie te voeren en enkele offers te brengen, namelijk door de Marine. Dit werd het geval voor de Koninklijke vloot. Een door de Koning opgerichte commissie waarin stafkapitein Brialmont zetelde had geadviseerd tot een reorganisatie en uitbreiding van de militaire marine. De 21-jarige kroonprins had er de werkzaamheden van gevolgd. Maar de bevoegde minister weigerde de verantwoordelijkheid der besluiten van de commissie op zich te nemen en, in januari 1862, stelde hij voor een einde te stellen aan het bestaan der Koninklijke Marine hij had zich neergelegd bij de afschaffing van de Koninklijke Marine; hij had het falen beleefd van de opeenvolgende pogingen om een nationale vloot op te bouwen. Het was dan dat hij, met zijn praktische, opbouwende, helder vooruitziende geest, de inspanningen aanmoedigde om de grote tradities van de Metropool der XVIe eeuw te hervatten. In augustus 1856 sprak hij : « Door de ligging en de bewonderens» waardige veiligheid van zijn haven, moet Antwerpen » de eerste rang innemen tussen de havens van de wereld. » Leopold huldigt, op 22 oktober 1860, het eerste gedeelte van het Kattendijkdok in; terzelfdertijd wordt de aansluiting met het verbindingskanaal tussen Maas en Schelde verwezenlijkt. Zijn persoonlijk kontakt met de Koning der Nederlanden vergemakkelijkt de besprekingen van Lambermont voor de afschaffing van de tol op de Schelde. Wanneer, in 1865, het land de dood van Leopold te betreuren had, liepen 3.000 schepen de haven van Antwerpen binnen, met een goederen-trafiek van een miljoen ton.

Ziedaar de grondvesten die door de eerste koning der Belgen gelegd werden om de expansie van het Rijk te verzekeren. Geschraagd door deze rijke ondervinding, zal Leopold II zijn geniale visie tonen met de stichting van zijn Afrikaanse Staat. Deze grootse kolonie wordt een onschatbare bijdrage, een reuzenmarkt voor de inrichting van uitgebreide verbindingen ter zee.

In de wisselvallligheden van de Belgische koopvaardij, tussen de jaren 1864 en 1897, die in de uitstekende studie van de heer G. Dufour, voorzitter der Belgische Redersvereniging,

(verschenen in de brochure «Schelde Vrij » in 1963 uitgegeven door het Nationaal Comité voor Zeevaartpropaganda) worden aangehaald, komen enkele stoutmoedige pogingen voor van John P. Best, Lansweert, Smeyers, Lemmé, E. Osterrieth. Menig agentuurkantoor huldigde scheepvaartlijnen in met gecharterde vreemde schepen, namelijk voor de emigrantentrafiek; Strauss, met zijn vennoot, agent in New York, bekwam, in 1867, een postcontract en de gedeeltelijke teruggave van de scheepvaartrechten.

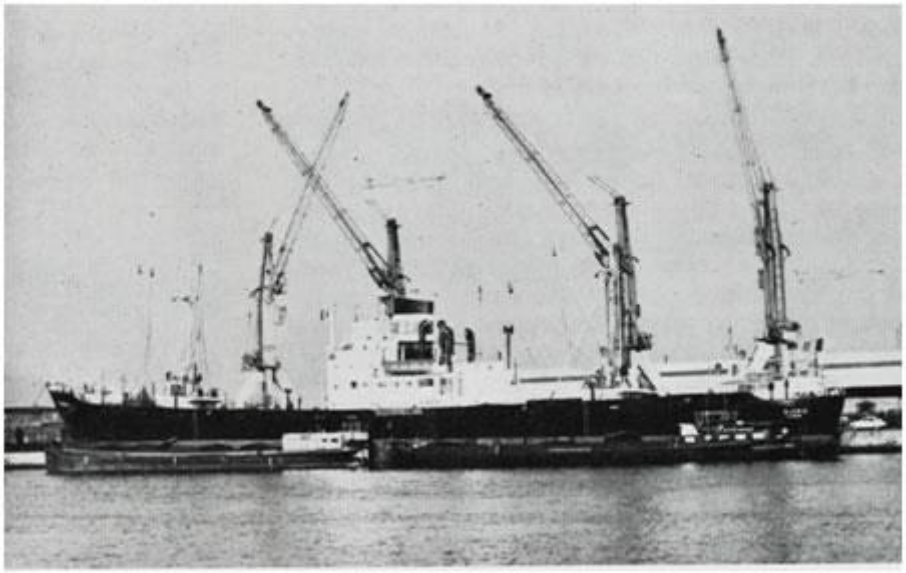
In dezelfde trafiek vaarden de schepen van De Ruyter - Engels en van Steinmann, met de « White Cross Line » vanaf 1871-1872.

De « Red Star Line » van de « S.A. de Navigation belgo-américaine », door de Antwerpse agenten Marsily en von der Becke gesticht in 1872, kon behouden blijven tot in 1931. Haar pakketboten, die de dienst tussen Antwerpen en New York verzekerden, waren algemeen bekend en gewaardeerd. Zestig jaar zouden zij een belangrijk vervoer van landverhuizers verzekeren en een waardige plaats behouden in het transatlantisch verkeer der grootste maritieme maatschappijen. De eerste wereldoorlog en de financiële en economische gevolgen ervan, zullen een einde stellen aan deze grote onderneming.

Deze maatschappij had ook een contract met de Staat afgesloten, vanaf 14 juli 1877, waarbij haar een minimum van een half miljoen frank gewaarborgd werd voor een wekelijks postvervoer; de loods- en bakentaksen op de Schelde werden ook terugbetaald.

Eenzelfde overeenkomst werd, reeds in 1876, aangenomen door de firma Lamport en Holt die een lijn op Zuid-Amerika verzekerde; zij bekwam een jaarlijks minimum van 250.000 frank voor een vervoer gedurende zes jaar der postpakketten, daarenboven ook de terugbetaling van loods- en bakengelden en snelheidspremiën van 50 frank per uur voor een spoedige aakomst in de havens.

Met de firma Kennedy - Hunter werd, op 30 maart 1882, een derde overeenkomst gesloten, voor een tweemaandelijkse afvaart naar Australië. Op 14 april kwam een vierde contract tot stand met de « Union Steamship Company » van John P. Best en C°, voor een maandelijkse dienst op Kaap de Goede Hoop.



m/s "Gloria" (6.160 tdw) van Belfranline n.v., in lossing

Overeenkomsten van een andere aard kwamen tot stand met drie vreemde maatschappijen. Het gold geen lijnen meer onder Belgische vlag, maar enkel de aanmoediging aan Duitse reders om de haven van Antwerpen te bezoeken. Dit greep plaats in 1886, wanneer voor de dienst van de Norddeutscher Lloyd op Oost-Azië en Australië een toelage van 80.000 frank voorzien werd, met terugbetaling van de loodsgelden; in 1889, toen de Deutsch Australische Dampfschiffs Gesellschaft agentschap van Eiffe en C° een jaarlijkse subsidie ontving van 18.000 frank; vanaf 1874 was reeds een overeenkomst aangegaan met de Kosmos Cie voor een lijn op Chili en Peru, mits ristourneren van de loodsgelden en uitbetaling van postvervoertaks van 10 centiemen per brief.

Het was toen aan privaat initiatief te danken dat nieuwe pogingen, voor het tot stand komen van rederijen, konden gelukken. Een eerste stap werd gedaan in 1886 om een nationale lijn in te richten tussen België en Congo, dank zij de Compagnie Gantoise de Navigation en de firma Walford en C°. Weldra zouden de Woermann Linie en Elder, Dempster en C°, het projekt hernemen en, onder de impuls van generaal Thys, een volledig Belgische lijn inrichten na de overname door de Staat van onafhankelijk Congo.

Terwijl die verbinding uitbreiding nam, kon de nationale vlag op andere schepen wapperen. Zo liepen voor het eerst tankschepen van de firma Speth en C° de haven van Antwerpen binnen in 1887. Twee jaar voordien was de rederij de Clerck en van Hemelrijck gesticht, die later omgevormd werd in van Hemelrijck en Geurts en nadien in « Armement René Geurts ». In 1891 ondernam F. Alexander, op zijn beurt, de uitbating van lijnen in de kustvaart.

De laatste jaren van de XIXe eeuw en het begin van XXe eeuw waren belangrijk voor de ontwikkeling der nationale vloot. De rederij Deppe breidde, in 1896, haar diensten uit door de stichting van twee filialen; in 1900 begon M. Fr. Good het vervoer van petroleum met Belgische schepen; in 1903 werd de « Société Océan » gesticht door M. L. Dens. Te Nieuwpoort kwam de « Handel en Scheepvaart » in het leven en, te Brugge, de rederij L. Hermans.

Koning Leopold Il was steeds bezorgd voor de ontwikkeling van de Belgische koopvaardij. Tijdens een memorabele zitting in de beurs van Antwerpen, op 16 oktober 1898, herinnerde hij er aan dat België het eerste land van het Continent was om een spoorbaan aan te leggen en hij voegde er aan toe : « Laten wij die met scheepvaartlijnen verlengen. Mogen de Belgen eindelijk de waarde van de zo belangrijke industrie van het vervoer ter zee begrijpen. »

Volgens hem gingen het bezit en de ontwikkeling van een kolonie gepaard met een marine. Wanneer dan de organisatie van de Congo een vaste wending had genomen, deed hij de eerste maatregelen treffen om een grotere bloei te geven aan de handelsvloot. In de pers, in de Kamers, in de schoot van grote instellingen, zoals de Kamer van Koophandel van Antwerpen, begon een campagne ter begunstiging van de maritieme gedachte. Dank zij de vooruitziende medewerking van M. Paul de Smet de Naeyer, minister van Financiën, werden grote werken uitgevoerd in de havens van Antwerpen, Gent, Brugge en Brussel. Leopold gaf zijn aanmoediging voor de stichting der Zeevaartvereniging die tot doel had de vorming van zeeofficieren aan boord van een zeilschoolschip, ook voor de oprichting van een Scheepvaartbond. De wet van 18 augustus 1907 kende een krediet van vijf miljoen frank toe aan drie rederijen : de Compagnie Océan van L. Dens, de « Compagnie Belgo-Argentine » en de « Compagnie Belge des Transports Maritimes » van de rederij Deppe.

Zo werd, na zestig jaar aarzelen en tasten, aldus door de Staat een nieuwe aanmoedigingspolitiek heringevoerd ten bate van zuiver Belgische ondernemingen.

Kort na het afsterven van Leopold II in december 1909 was de totale tonnenmaat der vloot gestegen tot 180.000 ton.

Zijn opvolgers toonden dezelfde bezorgdheid voor de uitbreiding der Belgische handelsvloot. De hoge vlucht nam toe. In 1914 bestond de koopvaardijvloot uit 125 eenheden metende 350.000 bruto ton, die de vaart op een dertigtal regelmatige lijnen verzekerden. Tijdens de eerste wereldoorlog bewees deze vloot de grootste diensten om de bevoorrading van het bezette land te verzekeren door de « Commission for Relief in Belgium ». Zij deed dit vervoer, alsook dit van de goederen bestemd voor het leger, tegen verminderde vrachten. De wet van 5 februari 1916 op de opeisingen bezorgde zo aan de Staat een bezuiniging van anderhalf miljard goud-franken; de operaties van de oorlogsverzekeringen, door de Staat gewaarborgd, lieten voor deze laatste, een tegoed van een miljoen pond voor de lading en honderdduizend pond voor de casco's.

De oprichting van de « Lloyd Royal Belge » door de besluitwet van 19 juli 1916 was een uitzonderlijke maatregel, om de bevoorrading te bevorderen. De Britse regering weigerde echter een gedeelte van de vloot, door de maatschappij in Engeland aangekocht, onder Belgische vlag te laten bregen. Kort na de vijandelijkheden kwam een rampspoedige daling in de vrachten die de maatschappij, in 1921, tot hervorming dwongen; een latere crisis bracht een radicale verandering in 1925; uiteindelijk werd, in 1929, de rederij opgeslorpt door de « Compagnie belge maritime du Congo », die toen de naam verkreeg van « Compagnie Maritime Belge, Lloyd Royal », vervolgens, eenvoudig, « Compagnie Maritime Belge ».

De ontzettende verliezen die de reders door de oorlog hadden ondergaan werden gedeeltelijk vergoed door de overdracht van Duitsche schepen die in de Belgische havens in beslag genomen werden, alsook door de bijzondere inspanning der rederijen die de tonnenmaat in 1922 brachten op 380.000 netto ton, d.i. meer dan 800.000 ton draagvermogen. Het ongeluk heeft gewild dat een zeer scherpe crisis, die tien jaar duurde, dit getal erg verminderde. In 1934 werd officieel krediet voorzien om de onttakelde schepen terug in de vaart brengen en, in 1936, om nieuwe casco's op de werven te laten bouwen.

Er kwam eindelijk een wet in 1939 die de grondslag legde van het officiëel krediet. Op de vooravond van de tweede wereldoorlog kon het land over een totaal van 250.000 ton schepen beschikken.

Die oorlog werd een nieuwe ramp voor de nationale koopvaardij : 60 Vo van de tonnenmaat werd vernield in dienst der Verbondenen; 800 zeelieden lieten er het leven bij op de 3.000 die onder onze vlag vaarden !

Dan zien we de reders in 1945 met hernieuwde kracht, hun vloot heropbouwen. Zij werden daarin geholpen door de geldelijke vergoeding der verliezen dank zij de « Vereniging van Onderlinge Verzekering tegen Oorlogsrisico » door de Staat ingericht en dank zij de uitbreiding van het maritiem krediet door de wet van 1948.

Daarenboven lagen 24 schepen in aanbouw op de werven voor Duitse rekening. Zij werden in beslag genomen en de bouw werd voltooid voor rekening der Belgische regering. Er waren nog 15 Amerikaanse schepen die onder de nationale vlag werden gebracht door de diensten van het Zeewezen te Londen en 8 Duitse schepen die aan België werden toegewezen door het internationaal vergoedingsorganisme.

Buiten die tonnage werden door de reders belangrijke bestellingen aan de scheepsbouwers gedaan. Alles te samen werden 200.000 ton schepen samengebracht. De reders konden zo, reeds spoedig, een aanvang nemen met de herinrichting van lijnen. Eens te meer bewezen zij de grootste diensten aan het land door het vervoer der levensmiddelen en der grondstoffen, die de bevolking en de industrie broodnodig hadden.

Tewaterlating m/s « Helmi » (2.800 tdw)
de Belgian Baltic Lines n.v.

Hun inspanning voor de vernieuwing en de modernisering van de koopvaardij ging gestadig voort. Zij verworven in de internationale maritieme middens een sterke positie. Hun talrijke verwezenlijkingen, zowel voor de commerciële organisatie als voor de technische vooruitgang, zijn merkwaardig.

In 1946 ontstond de « Belgian Fruit Lines » die in Antwerpen een belangrijk centrum van vruchten bracht; de « Compagnie Maritime Belge » stichtte een Congolese filiaal; « Navibel » begon in 1947 een nieuwe kustvaartdienst op Groot-Brittannië, Spanje en Noord-Afrika.

Reeds vanaf 1948 besliste de « Compagnie Maritime Belge » tot de uitvoering van een uitgebreid programma over te gaan en haar vloot te herbouwen en uit te breiden. Twee der zeven gemengde pakketboten voor Congo werden in dienst gesteld. In 1954 kwamen de eerste eenheden van een reeks van snelle cargolijners van 10.000 ton in de vaart. Drie jaar later was het de beurt aan het eerste schip van de dertientallige reeks van 12.000 ton.

De gebeurtenissen die de uitroeping van de Congolese onafhankelijkheid volgden, hadden zware gevolgen voor de trafiek der vroegere kolonie. De leiders der Compagnie namen op stoutmoedige wijze de nodige maatregelen om aan de toestand te verhelpen en, in mei 1961, werden vier nieuwe eenheden van 12.723 ton, type « Breughel », in opdracht gegeven aan de scheepswerven van Hoboken. Op 1 januari 1965 beschikte C.M.B. over een vloot van 34 eenheden, metende in totaal 310.759 B.T.

Gedurende deze naoorlogse periode zal de firma Henri Deweert nog een kustvaarder in dienst brengen (1948), terwijl de « Compagnie Belge d'Expansion Maritime » zich bezig hield met de wilde vaart (1951). Sedert de oorlog heeft de Belgische tankvloot een enorme uitbreiding genomen. Op het huidig ogenblik bestaat de vloot van de drie rederijen : « Petrofina », Esso Marine (Belgium) » en « Belgulf Tankers », uit 14 eenheden van jonge datum, met een totale tonnenmaat van 232.789 B.T.

Nieuwe diensten werden ingericht door de rederij Belgia », in 1956, voor de vaart op Zweden, door het Havenbedrijf Mabesoone », door de « Belfranline » naar de Antillen, door « Antigoon » voor de kustvaart (1959), zo ook de « Northern Shipping Service » met de « Argo » in 1960, en de rederij Deppe zou haar vloot uitbreiden met drie schepen van 10.900 ton, terwijl de « Belgian Baltic Lines » een nieuwe regelmatige lijn inrichtte naar Finland (1961) en de rederij Plouvier » eigenaar werd van een nieuwe eenheid.

Een sensationele bedrijvigheid ontstond door het ertsvervoer. In 1957 werd de U.B.E.M. door enkele bdrijfsleiders gesticht, die vier bulkcarriers van 14.500 TDW. aan de Belgische scheepswerven bestelden, één van 22.000 TDW. en één van 39.000 TDW. Van haar kant zette de « Compagnie Maritime Belge », in 1964, een zelfde gespecialiseerd schip op stapel van 52.000 TDW. (andere van grotere tonnenmaat zullen volgen), terwijl de groep UBEM terug een andere bulkcarrier van 62.000 TDW. komt te bestellen.

De geweldige activiteit die door de Belgische reders aan de dag wordt gelegd betuigt van hun onwankelbare wil het net der nationale diensten op alle gebied uit te breiden naar alle landen van de wereld. De steun door de openbare macht, bij middel van het

scheepskrediet, kon hen begunstigen, maar het is hun eigen krachtinspanning, de bevoegdheid en de bekwaamheid van hun leiders die het hebben mogelijk gemaakt aan de Belgische industrie en handel één van de meest moderne en efficiënte vloten ter wereld ter beschikking te stellen.

Heden nemen de havens en de wegen die er toe leiden een spectaculaire vlucht. Antwerpen en zijn uitgestrekt nieuw complex is de Ode haven van de wereld. In die begeesterende opbloei voert de Belgische koopvaardij een vredelievende strijd met haar snelle pakket-cargo schepen, haar tankers en ertsschepen van ongeveer 60.000 ton, met haar uitgestrekt net van kust- en grote vaart, haar miljoen ton draagvermogen, is zij een onmisbare schakel geworden in de nationale expansie.

Het is werkelijk de plicht en het belang van gans de bevolking, en bijzonder van de leiders van alle takken der nationale bedrijvigheid, deze prachtige, vruchtbare herleving te steunen.

Henri De Vos

Inséré le 04/01/02 Dossier Enlevé le 04/02/15

A simpler approach

Commercial shipping is heavily regulated by a large number of international, EU and national authorities. The sheer number of organisations involved, the lack of consistent definitions and the vast number of different ship types in use, pose a significant challenge to those who need to create, enforce and comply with maritime regulations. This high level of complexity often leaves practitioners uncertain as to which regulations apply in a given scenario and makes non-compliance a very real threat. Philipp Lohrmann, Research Scientist at BMT Group and Project Manager of e-Compliance, a new three year EU project, highlights the current challenges and provides a comprehensive view of what is required to help reduce the administrative burden for stakeholders. Philipp further explains why creating a model for managing regulations digitally may revolutionise the currently fragmented field of regulatory compliance.

A modern ship bridge is packed with bleeping, blinking state-of-the-art technology to help steer her clear of danger, but there is little more to help avoid treacherous legal issues than there was a century ago. What they have is little more than a legal plumb line, chronometer and sextant. Relying on such antiquated legal tools means merchant vessels are forever at the mercy of ever-changing regulations, often murky, and potentially costly or even ruinous. Regulations change from one vessel to another, from place to place and, sometimes even from one day to the next. Regulations applying to a particular vessel generally depend on the date a ship was built, not the date shown on the calendar. Any oversight or error could lead to costly delays or even detentions. It is no great surprise then that senior seafarers continue to highlight that compliance paperwork can take up as much as 80 per cent of their time – time which could be spent dealing with more ”worldly” matters like safety and navigation.

Seafarers attempting to comply with regulations face many challenges. The language used to express bye-laws applying at a particular port is often unfamiliar to those expected to obey them, usually being written in the local language of the port in question, rather than the mother tongue of the port’s visitors or plain English. Moreover, even in the local language, terms appearing in one document might be used to mean something different

in another. What constitutes a "bulk carrier", for example, is a slippery nautical term in English. Such inherent legal ambiguities mean that ship owners inevitably face some degree of compliance risk whatever steps they take to avoid it.

Of course, none of this is new, but centuries of linguistic and legal head-scratching, form-filling, signing, stamping and countersigning has led to a number of new approaches – one of which is e-Compliance, a new three year European Commission-funded research project which will help to improve efficiency within the maritime regulations domain. But it is not just administratively overburdened ship masters and ship agents who stand to reap the reward in freeing up spare time. The e-Compliance project is set to pave the way for a number of approaches which address specific issues, from which all stakeholders in maritime law can benefit, whether their responsibility is to create, enforce or obey it.

Navigating the fog

The project, involving ten organisations from seven EU countries, is being coordinated by BMT Group Ltd, a leading international design, engineering and risk management consultancy. It will include the development of a system which provides a digital library of maritime regulations, enhanced to allow users to more easily establish definitions and their meaning. Using the e-Compliance system, a supranational organisation would be able to ensure consistency when drafting new maritime regulations. Currently, the same term can often refer to various things in different regulatory regimes. Using the e-Compliance system, it will be possible to ensure the same term can be used to denote the same thing in new regulatory documents. A user affected by the new regulation, meanwhile, such as a ship operator or port, would be able to look up the definitions of a term and search for related regulations referring to the same term or its synonyms. Those drawing up local port bye-laws might also look to compare their efforts to international regulations, something which is currently difficult to do. Again, the same term is often used to denote different things while different terms are used to denote the same thing. It is hard to find overlaps and gaps in the maze of existing regulations. At the heart of this approach lies the concept of an ontology which is a structured, and to some extent, computer-readable model of the maritime regulations domain. A consistent use of terms and definitions is then enforced by mapping new draft regulations to this structure. The e-Compliance system will also enable a port to publish regulations and report templates in a machine-readable format. Such documents could be picked up by the e-Compliance system and specifically tailored to the needs of a ship, automatically initiating the reporting and compliance-checking process when required. This would in some cases be straightforward, for instance, when it comes to extracting a ship's "static" data, such as its identity number, name, and tonnage.

Connecting the makers of the law to those who need to enforce or obey it through an electronic system would mean those required to uphold a regulation need to know of any changes. The same goes for International Safety Management code companies. Providing updates on regulation changes which are filtered by relevance (for example, ship or cargo types and geographic regions) will help practitioners update their processes and internal procedures to ensure compliance. Port inspectors would also see benefits. Certificates could be issued with scannable "QR" mobile device codes. Using such codes, a paper certificate's validity could be readily checked using a handheld device (like a smartphone) which deciphers the QR code and allows the user to compare the stored details to the information on the certificate. Such a "digital signature" will simplify and speed up the validation process for on board certificates. Local bye-laws and all mandatory reporting requirements vary widely. The e-Compliance system will allow ship agents to formulate computer-readable "rules" that contain the requirements of the bye-laws. These rules can then be

exported to the ship's "Rules Engine" which can alert the captain and crew if any of the requirements are not met. Another approach is to utilise 'historical' data on vessel movements and actions in a certain area (like a port). If a vessel then approaches this port, its behaviour can be compared to the 'typical' behaviour of similar vessels on similar journeys. Any discrepancies could be detected, warning the crew of possible instances of non-compliance. In addition, the e-Compliance system can further reduce paperwork by sharing reporting information when ports require it to be transferred in advance from the port the vessel last left.

Making the law

Those drafting regulations also have much to gain. As aforementioned, regulations can be created by numerous different bodies with little co-operation. By offering a way to create regulations digitally e-Compliance could allow them to harmonise their efforts. This could improve the quality of regulations and, in time, reduce the burden put on those having to enforce and comply with them. As things stand, a captain may be a faultless seafarer who is able to navigate the most challenging of routes in seemingly impossible conditions, only to dock in a small European port and be confounded by paperwork. Such ports would benefit from having the tools they need to make their facility more welcoming to trade. Any efficiency improvements the project can deliver would also offer benefits for the EU economy as a whole, where ships transport 90 per cent of external trade and 40 per cent of internal trade. More broadly, the project fits into the EU's "Integrated Maritime Policy" which aims to help meet the rising demands of global competitiveness, climate change, the degradation of the marine environment, safety, security and sustainability.

To fulfil the EU's aim of continuing to be a world economic power by offering an open single market for trade, seafarers need technology to help them reliably navigate legal obstacles, just as they have to overcome physical ones. The e-Compliance project could show the way. e-Compliance consists of 10 partners, all of which bring their own areas of knowledge and experience of working in the maritime space. They include: BMT Group Ltd, Det Norske Veritas (DNV), Danaos Shipping Co Ltd, INLECOM Systems, The Netherlands Organisation for Applied Scientific Research (TNO), TEMIS, Acciona Infraestructuras, PORTIC Barcelona, Norsk Marinteknisk Forskningsinstitutt AS (MARINTEK) and the Maritime Administration of Latvia.

Article by Mr. Philipp Lohrmann, Project Manager of e-Compliance, as arranged on behalf of Hellenic Shipping News Worldwide

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Inséré le 06/01/02 Nieuws Nouvelles Enlevé le 06/02/15

Merchant ships left as main lifeline to desperate migrants

By Michael Grey from London

Who remembers the fine work done by merchant ships after the Vietnam war, with the "boat people" fished out of stormy seas and carried to safety? There are probably memories of the fine work of Captain Rinnan of the big Wilhelmsen ro-ro Tampa, who rescued an enormous number of people from a sinking boat and then faced down the Australian authorities who were giving him a hard time as he sought to safely land them. He went down as a hero, twice over, although his company and flag state (Norway) gave him plenty of moral support on the day. Merchant ships are back on the Search and Rescue front line

again, most notably in the Mediterranean, where the "official" Mare Nostrum operation to save the lives of refugees has ended, being replaced by a far more modest EU affair that will operate far closer to the coast. There has been a great deal of moralising and breast beating about the scaling back of coastguard operations, ostensibly because of cost, although it has been whispered that people who are less sure of being rescued might be deterred from attempting the voyage.

It does not seem to be a move that anyone can be particularly proud of, in a year that has seen 150,000 refugees rescued from leaky boats in the Mediterranean, where it is believed that at least another 3,000 have perished.

There has been rather less publicity about the role of merchant ships in this continuous rescue mission, and the fact that with the coastguards standing down, it will be left largely to those aboard these vessels to provide the main lifeline for these wretched escapees and victims of people smugglers. It is not that they will have any choice, regardless of longstanding traditions to rescue those in distress.

Both SOLAS and UN refugee conventions prescribe legal obligations for those aboard the ship which cannot be ignored. If people needing rescue are sighted, there is no doubt in anyone's mind about these responsibilities, although it is said that those aboard some ships will studiously look in the other direction as they steam past.It is one thing for a coastguard cutter, with a relatively low freeboard, large crew trained in emergency operations to cope with a refugee boat packed with distressed people. It is something rather different for a large merchant ship, with a long climb onto its deck and a tiny crew, to provide succour to 200 or 300 desperate souls.

The fact that many ships this year on passage through the Mediterranean, have done just that, their crews showing both seamanship and humanity, has been insufficiently recognised. It clearly has not been easy and not a skill set that will feature in the training of the average merchant mariner. They have seen terrible sights, with corpses in the sea and in the bottoms of the refugee craft. They have found themselves facing great mobs of desperate people, far more than can be easily controlled. They have to consider the safety of their own ships; think on the suitability of a laden chemical or gas carrier as a passenger vessel! They may have to face armed traffickers, while the refugees themselves might be carrying weapons, even infectious diseases. And as winter sets in, there will be no let-up, for every situation which set these armies of people on the move remains unresolved. For all their seamanship and skill, probably they will receive very little recognition or even thanks for their humanitarian endeavour. The ports to which they divert to land their distressed people will not be overjoyed when they arrive, such is the climate of the times in which we live.

Source : seatrade

Inséré le 08/01/02 BOEKEN LIVRES Enlevé le 08/02/15

Logboek van De Kogge

B O O K R E V I E W door : Frank NEYTS

Recent verscheen bij Davidsfonds Uitgeverij een interessant boekwerkje onder de titel 'Logboek **van De Kogge. Een Middeleeuws schip gestrand in 't zand**'. Graafwerken voor de uitbreiding van de haven van Antwerpen, meer bepaald in het Deurganckdok, een zijarm van de Schelde, legden in 2000 een kogge bloot. Het middeleeuwse eikenhouten

schip bevond zich in uitzonderlijk goede staat. Algauw rezen de eerste vragen. Hoe komt zo'n groot schip in de regio van Doel terecht? Op zijn kop dan nog! Vanaf wanneer ligt het daar? En wat kan deze unieke vondst ons leren over het verleden? De vondst van De Kogge in het Deurganckdok is van groot belang. Na jarenlang archeologisch en natuurwetenschappelijk onderzoek geeft ze haar geheimen prijs. In dit boek bericht De Kogge zelf over haar indrukwekkende geschiedenis. Je achterhaalt samen met haar waar ze overal aangemeerd kan hebben en wat er mogelijk in haar laadruimte lag, je leest over hevige stormen en overstromingen en je leert meer over het drukke handelsverkeer in de veertiende eeuw.

'**Logboek van De Kogge'** (ISBN 978 90 5908 53 05) werd door Davidsfonds Uitgeverij als softback uitgegeven. Het boek telt 119 pagina's en is rijkelijk geïllustreerd. Het boek kost 14,95 euro en is verkrijgbaar via de boekhandel.

Inséré le 08/01/02 Dossier Enlevé le 08/02/15

Phantom Ships Expose Weakness in Vessel-Tracking System

Shippers, traders and researchers monitoring global vessel traffic in the past six months might have seen an imaginary U.S. ferry sail to North Korea, a tugboat go from the Mississippi River to a Dallas lake in two minutes and the path of a fake Italian yacht spelling out PWNED -- hacker slang for "defeated."

These false signals, orchestrated by Trend Micro Inc., a Tokyo-based Internet security company, were designed to expose vulnerabilities in the mandatory system used to track merchant vessels worldwide. With the network that was built to improve safety at sea unprotected against hackers, phony tracks could lead to collisions and other accidents, according to the International Chamber of Shipping, a trade association representing more than 80 percent of the fleet.

International conventions require all ships to broadcast their identity, status and location to other vessels and coastal authorities. The signals, compiled by websites such as marinetraffic.com and data services including Bloomberg LP, the parent of Bloomberg News, may be used to gauge how many ships are available to load a cargo or predict trade before official figures are released. The system needs security, according to Kyle Wilhoit, a Trend Micro researcher in St. Louis.

"This would be the equivalent of a house being wide open, windows open, everything wide open," Wilhoit said by phone Oct. 21. "We can literally move, create and modify existing boats, as well as boats that don't even exist. Some nerd in a basement can do that."

Formal Review

Trend Micro wants to help secure the system and is working with U.S. government agencies to bring the matter before the International Maritime Organization, the United Nations agency that oversees shipping, Wilhoit said, declining to be more specific. The IMO can't consider the issue until a member state or organization formally presents it for review, spokeswoman Natasha Brown said by phone from London Oct. 21, declining to comment further.

Since 2004, an IMO convention required all ships to carry automatic identification systems, known as AIS. As an international standard, the actual technology isn't owned by anyone, much like the Internet. Ships carry transponders that communicate with shore-based antennae and satellites to report their identity, position, speed and status.

Radio Interference

AIS isn't meant to replace navigation systems such as radar, according to IMO regulations. Data are either transmitted automatically or manually entered by a ship's captain. Authorities around the world who use the signals say they're generally reliable: A 2011 study by the Lisbon-based European Maritime Safety Agency found that fewer than 3 percent of ships were signaling invalid identification numbers.

A disclaimer on marinetraffic.com says the site isn't responsible for the underlying AIS data, which may be inaccurate or incomplete because of radio interference, weather conditions, incorrectly configured devices or negligent data entry by a vessel's crew.

The signals are aggregated and made available on websites and through paid services such as IHS Inc. (IHS)'s AISLive, which shows updates every three minutes from 70,000 vessels in more than 100 countries. While that's useful for analysts, ship owners generally resent AIS because it weakens their ability to win higher rates by bluffing about vessel availability, said Peter Sand, an analyst at the Baltic and International Maritime Council, whose members control 65 percent of the global fleet.

'DONT BE NOSEY'

"Ship owners would rather be without that," Sand said by phone Oct. 24. "With AIS available to everybody, it has limited negotiating power." Shipping rates have declined since 2008 because owners ordered too many vessels before the global recession. The ClarkSea Index, a measure of industrywide earnings, averaged $9,586 a day this year, tied with 2012 for the lowest since at least 1990, according to data from Clarkson Plc (CKN), the world's largest shipbroker.

The knowledge that signals are being monitored has sometimes affected the transmissions. Ships transiting Somalia's coast often broadcast "ARMED GUARDS" because of speculation that pirates follow the signals to target ships and won't attack those with security details. Others misspell or abbreviate their destination, or even display "NONE OF UR BUSINESS" and "DONT BE NOSEY." An Iranian tanker once reported its destination as "NEW YOURK" (sic), according to data compiled by Bloomberg.

Iranian Silence

Some of Iran's fleet stopped signaling since U.S. and European sanctions started hampering the country's oil exports last year, according to the International Energy Agency. Vessels that switch off their AIS equipment will still be seen by radar, IHS said in an e-mailed statement.

The system has no way of verifying who's submitting data and whether the signals are plausible, according to the Trend Micro study presented Oct. 16 at the Hack in the Box conference in Kuala Lumpur.

Since shippers and traders monitor the signals to anticipate trade patterns, hackers could theoretically profit from betting on commodity or freight prices and manipulating AIS, said Roy Mason, the founder of tanker tracker Oil Movements, who has been using information from port agents, shipbrokers and AIS signals for 26 years. This would require significant effort because shipping markets are highly variable, he said.

Suspect Signals

"In order to establish that something real has happened, something significant and out of the ordinary, three to four weeks is what's needed," Mason said by phone Oct. 24. "One extra tanker isn't news, but 10 is, or 20." Marine trackers know to discount signals that

appear untrustworthy, Mason said. If data appear suspect, users should check the ship's flag, name and identification numbers, IHS said.

The U.S. Coast Guard hasn't received any reports of AIS hacking, spokesman Carlos Diaz said by e-mail. AIS is vulnerable to hacking because it lacks any form of authentication or encryption, EMSA said in an Oct. 22 e-mailed statement. Updating the protocols is the responsibility of the IMO and the International Telecommunication Union, according to EMSA.

The ITU will consider enhancements to AIS at the World Radiocommunication Conference in 2015, the Geneva-based organization said in an e-mailed statement Oct. 28. The agenda does not include security, which is the IMO's responsibility, the ITU said in an e-mail today.

Equipment needed to transmit the false signals cost about 700 euros ($965), Wilhoit said. Trend Micro found ways to stage fake emergencies, such as a man overboard or collision warnings, he said. They didn't attack any real vessels.

"AIS is now being used at the fringes of what it was intended for," John Murray, marine director at the International Chamber of Shipping in London, said by phone Oct. 21.

Inséré le 10/01/02 NIEUWS NOUVELLES Enlevé le 10/02/15

Sovcomflot comes to leadership

Sovcomflot Group is ahead of the world's largest tanker companies in terms of revenue and profit of quarter I, 2014. The debates about the company privatization terms intensified in this context. Russian tanker company Sovcomflot demonstrates high competitiveness in the global market. In the first quarter of 2014, the Group's net profit surged 29.1 times, year-on-year, to $58.1 mln with gross revenue of $365.1 mln (up 16.5 times).

For comparison: Scorpio Tankers, one of world's largest tanker companies had $53.34 mln of net profit with revenue of $76.6 mln. Scorpio Tankers' time-charter equivalent hit $72.76 mln, Sovcomflot's - $270.6 mln. Tanker company Frontline had a net loss of $12.1 with $169.99 mln of revenue. One more leader of the industry, Teekay Tankers, had a net profit of $26.43 mln with $61.76 mln of revenue. Norden's tanker division had revenue of $93.95 mln and a net profit of $3.62 mln.

Meanwhile, the freight market is still poor: freight rates have not recovered from 2009 to pre-crisis level. They are 3-4 times below the pre-crisis freight rates. In this situation, the companies have to look for specific market niches. Sovcomflot has seen them in transportation of liquefied gas, servicing of offshore oil & gas projects in adverse climatic conditions and long-term participation in offshore energy projects of Russia and other countries. Also, it should not go unmentioned that Sovcomflot is highly competent in servicing Arctic projects and NSR shipping. In this respect, amid worsening relations

between Russia and the west, emerges the issue of providing certain preferences to Russian carriers, for example in competitions for servicing oil & gas projects at Russia's continental shelf. Moreover, it is a matter of national security, Russia's independence of competitors' will. As Sergey Frank, President and CEO of Sovcomflot, commented earlier, Sovcomflot frequently participates in tenders of the leading oil & gas companies all over the world. "Legislation of many countries, even most liberal ones, provides preferences for national carriers, for vessels flying national flags through reserving certain types of cargo for them. Therefore, it is extremely difficult for foreign shipping companies to get access to such cargoes. This approach seems to be appropriate in Russia as well," Sergey Frank noted.

In the case with Sovcomflot, such preferences would not mean an artificial dragging of a company to a profitability level since the carrier has already demonstrated its competitive ability in the most unfavorable market situation and especially tough competition in global markets. Amid Sovcomflot's success, the debates about the company privatization time resumes in Russia. At SPIEF-2014, Olga Dergunova, head of the Federal Property Management Agency (Rosimushchestvo) confirmed the plan on privatization of 25% of Sovcomflot and NCSP in 2014. However, Economic Development Minister, Alexei Ulyukayev later said that Russia's privatization plan for 2014 will be revised. In June, First Deputy Finance Minister Tatyana Nesterenko said that the Government had decided not to sell stakes in Sovcomflot in 2014, due to the lack of certainty with the value of the assets. According to the Government decree, 25%+1 share of Sovcomflot is to be privatized by 2016. The Government seems to face a dilemma: to replenish the budget as soon as possible (it would be a proper time amid the economic decline, joining with Crimea and international sanctions) or to wait for improving of the market situation and earn more than it is possible today, especially in view of future export of hydrocarbons from the offshore projects in the Arctic and preferences obtained by the Company as a national carrier. Anyway, we think that Sovcomflot will become one of the most attractive assets in the industry for private investors.

Source : PortNews

Inséré le 12/01/15 HISTORIEK HISTORIQUE Enlevé le 12/02/15

Le paquebot Normandie (1ère partie)

Voici soixante-dix ans, Normandie achevait sa première saison d'exploitation sur la ligne Le Havre-New York, après avoir conquis le Ruban bleu dès son voyage inaugural. Sa brève et brillante carrière, brutalement interrompue par sa destruction en 1942, ne doit pas faire oublier l'aventure que furent la conception et la construction de ce navire immense et novateur, dans un contexte économique terriblement dégradé.

Bien avant que la construction du paquebot Normandie ne débute, en janvier 1931, et avant même que les études ne soient formellement engagées, ceux qui vont avoir la charge de travailler sur le dossier sous l'autorité de Fernand Coqueret, directeur des Chantiers de Saint-Nazaire, et de Paul Romano, ingénieur en chef de la Transat, en mesurent l'ambition et la complexité. Les études vont durer un an et demi environ, du début de l'année 1929

jusqu'à l'automne 1930. Au cours de cette période, les caractéristiques du projet vont évoluer en permanence.

Le problème le plus immédiat tient au fait que les Ateliers et chantiers de Penhoët (ACP) ne sont techniquement pas en mesure de construire Normandie. René Fould, président des ACP, en est de longue date conscient et informé. La cale de construction utilisée pour Ile-de-France ne permet pas d'envisager une construction d'une longueur supérieure à 275 mètres. Même à marée haute, la profondeur disponible au lancement n'excède pas 5,50 mètres, là où il faudrait au minimum 6,50 mètres; et la présence d'enrochements dans le lit de la Loire, dans le prolongement du chemin de lancement, rendrait les travaux complexes et coûteux. Côté bassins, la forme-écluse existante ne dépasse pas 30 mètres de largeur, ce qui est insuffisant.

René Fould va donc engager les ACP dans des travaux majeurs, bien avant que le paquebot ne fasse l'objet d'une commande ferme de la Compagnie générale transatlantique (CGT). Le premier chantier concerne la forme Joubert, forme-sas longue de 350 mètres et large de 50 mètres, qui va offrir un nouveau passage entre l'estuaire de la Loire et les bassins à flot du port. Les travaux débutent dès 1929, et auront suffisamment progressé pour que la coque de Normandie puisse rejoindre le quai d'armement au lendemain de son lancement, fin octobre 1932. La forme Joubert ne sera vraiment terminée qu'en 1934, et dès lors utilisable comme forme de radoub.

Dès 1929, bien avant d'être finalisé, le projet "Normandie" a nécessité la réalisation d'importants travaux à Saint-Nazaire, tels ceux d'une nouvelle cale de construction, seule en mesure d'accueillir un aussi vaste chantier.

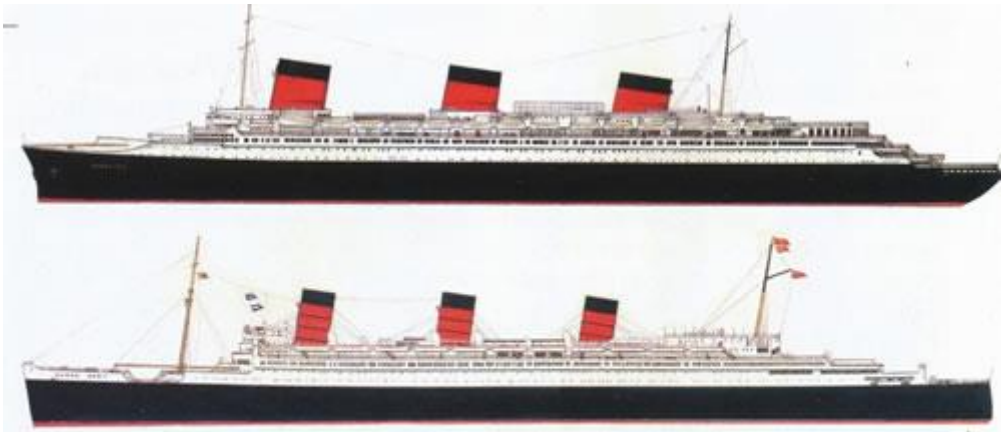
La deuxième opération consiste à réaliser une nouvelle cale inclinée, dite cale n° 1, qui supportera le navire pendant toute la phase de construction. La commande initiale est passée dès février 1929, et les travaux de maçonnerie débutent en octobre. En juillet 1930, 200 mètres de cale sont prêts, et les chantiers peuvent commencer un important travail préparatoire, avec la mise en place du billotage et des chemins de lancement. On voit au même moment apparaître les huit grandes grues métalliques, quatre de chaque côté de la cale, qui déposeront sur le navire en construction les tôles d'acier nécessaires. Par la suite, la réalisation de la cale et de ses abords se poursuivra alors que le paquebot sera lui-même en construction. Il faudra attendre l'été 1932, quelques semaines avant le lancement, pour que soient enfin achevées les maçonneries sous-marines prolongeant et parachevant cet ouvrage.

Objectif: un jour de moins que les concurrents sur la traversée de l'Atlantique avec plus de passagers

Parallèlement aux travaux qui transforment le site industriel des ACP, les études techniques de Normandie débutent. Pour l'essentiel, l'enjeu consiste à trouver des solutions satisfaisant aux deux exigences primordiales du cahier des charges: la vitesse à atteindre, et le nombre de passagers à transporter. Le navire doit au minimum gagner une journée de mer par rapport à Ile-de-France. Dans la mesure où chaque noeud gagné représente une réduction d'environ 3 heures sur la durée de la traversée de l'Atlantique, pour gagner 24 heures, la vitesse doit passer de 21 noeuds — la vitesse commerciale d'Ile-deFrance — à 28,5 noeuds au minimum. A cet objectif déjà ambitieux, il faut ajouter une réserve de puissance et de vitesse qui permette au paquebot de rester en horaire, même s'il est retardé au cours de la traversée.

L'objectif fixé quant au nombre de passagers à transporter découle d'une équation économique où la vitesse joue un grand rôle: si celle-ci augmente de façon significative, le coût au mille parcouru s'accroît lui aussi. Pour rétablir l'équilibre économique, il est indispensable de dégager des recettes supplémentaires, d'une part en augmentant le nombre annuel des traversées, d'autre part en accroissant la capacité du navire. C'est ainsi que l'on aboutira au chiffre de 2000 passagers environ à la mise en service, contre 1600 pour Ile-de-France.

Ces données, qui sont à la base des études, vont avoir une influence déterminante sur le calcul de la longueur, qui va augmenter spectaculairement par rapport à celle d'Ile-de France (241 mètres). Pour respecter l'objectif défini en termes de capacité, il faut dégager des volumes permettant d'accueillir 2000 personnes dans des conditions de confort inégalées. Ce confort dépend par ailleurs de la tenue à la mer, le navire devant être capable de maintenir sa vitesse, y compris par très mauvais temps, sans que ses passagers n'aient à subir trop de désagréments. L'augmentation de la longueur, dans la mesure où elle contribue fortement à la réduction du tangage, apporte une réponse à cette exigence. Enfin, il convient d'intégrer au raisonnement l'élément le plus décisif: la vitesse théorique d'une coque est une fonction croissante de sa longueur. Pour aller vite, sans trop approcher la vitesse limite de la coque, il va falloir construire un navire d'une longueur jamais vue.



Silhouettes à la même échelle de *Normandie* (en haut), long de 313,75 mètres, et de son rival le plus direct, *Queen Mary*, long de 310,50 mètres. A la fin des années vingt, la concurrence entre les compagnies maritimes assurant les liaisons transatlantiques était particulièrement rude, chacun voulant effectuer la traversée la plus rapide pour détenir le fameux Ruban bleu, qui constituait un argument commercial non négligeable.

Tous les autres paramètres vont à leur tour faire un bond en avant spectaculaire. Par rapport à Ile-de-France, la jauge brute - volume total de la coque et des superstructures - double, passant de 41 000 à 80000 tonneaux de jauge brute (tjb). La puissance suit la même courbe ascendante: aux 55000 chevaux d'Ile-de-France vont

correspondre sur le futur Normandie des installations motrices susceptibles de produire des puissances trois fois plus élevées.

Des dizaines d'essais en bassin aboutissent à un chef-d'œuvre qui restera une référence

Fin 1928, la Transat a entériné le lancement du projet. Les études de coque commencent vraiment en avril 1929, au bassin des carènes de la Marine, à Grenelle. Avant même la réalisation des maquettes d'essai, les devis de poids obtenus par le calcul et la première ébauche de plan d'emménagements révèlent la nécessité de revoir sensiblement à la hausse les dimensions envisagées au départ, soit 275 mètres entre perpendiculaires. L'équipe au travail à Grenelle reprend donc le projet autour de spécifications correspondant à un navire beaucoup plus important, long de 290 mètres entre perpendiculaires - soit sans doute 305 à 310 mètres hors tout - et large de 32 mètres.
Peu après le début des études, un nouveau personnage, Vladimir Yourkevitch, va exercer une influence déterminante sur la conception de la coque, véritable chef-d'oeuvre d'architecture navale. D'origine russe, Yourkevitch est un ancien ingénieur naval de la Marine du tsar. Il a choisi l'exil en 1917 et est venu s'installer en France. L'homme est encore jeune, en 1928, quand il commence à s'intéresser au "super Ile-de-France". L'année suivante, lorsqu'il est introduit auprès de René Fould, il peut développer ses idées, et proposer une coque de grande longueur certes, mais relativement large, pincée aux extrémités, et dotée d'un bulbe d'étrave.

De l'été 1929 à l'été suivant, le projet s'écarte de plus en plus des conceptions traditionnelles dont étaient issus les premiers travaux. Le programme de recherches, remarquablement développé et exhaustif, donne lieu à l'étude de cent soixante modèles de coques, dont une vingtaine est essayée en bassin. L'ensemble des appendices, comme les ailerons porte-hélice et les quilles de roulis longues de 63 mètres et larges de 1,20 mètre, qui représentent un enjeu important en termes de traînée, est intégré au programme d'études.

La dernière campagne d'essais a lieu pendant l'été 1930. L'équipe d'ingénieurs et d'architectes se déplace en Allemagne, pour travailler au bassin des carènes de Hambourg, mieux équipé, où ont été conçus quatre ans plus tôt, les paquebots Breinen et Europa. On y teste à nouveau une série de coques et de bulbes d'étrave. Mais dans les faits, on en est déjà à la validation de choix techniques mûris depuis plusieurs mois. C'est ainsi que les dimensions du navire font un nouveau et ultime bond : 313,75 mètres de longueur dont 293,20 mètres entre perpendiculaires; 35,90 mètres de largeur maximale à la flottaison pour 36,40 mètres au niveau de l'encorbellement du pont-promenade ; 11,16 mètres de tirant d'eau moyen en charge; un peu plus de 60000 tonnes de déplacement, pour une jauge brute alors estimée à 75 000 tjb environ. Ce sont ces valeurs qui serviront à l'établissement des plans définitifs. Et la coque de Normandie va, pendant des décennies, constituer une véritable référence pour tous les architectes navals.

Dans leurs grandes lignes, les oeuvres vives du projet s'inspirent donc largement des idées que Vladimir Yourkevitch avait exposées à René Fould. A l'avant, au niveau de la flottaison, les entrées d'eau sont d'une finesse extraordinaire. Les lignes de l'avant sont concaves, puis s'infléchissent à plusieurs dizaines de mètres de l'étrave. Elles deviennent convexes et le restent pratiquement jusqu'à l'arrière, relativement volumineux. Point remarquable: sur plus de 300 mètres, la coque ne comporte aucune partie rectiligne, ce qui distingue radicalement Normandie de tous ses successeurs, y compris de navires complexes comme Queen Mary 2, pour lesquels la recherche d'économies à la construction a imposé de simplifier les lignes. Des entrées d'eau aussi fines entraînent cependant une perte de

volume et donc de flottabilité à l'avant. Celle-ci est compensée par la présence du bulbe sous l'étrave.

Au-dessus de la flottaison, les lignes composant au mieux avec la résistance de l'air

Le caractère extrêmement élaboré du dessin des oeuvres vives aboutit à conjuguer une série d'avantages: réduction significative du tangage, accroissement de la stabilité de formes, et surtout modification du système de vagues du navire. Concernant la tenue à la mer, la supériorité de Normandie va se révéler très nette, avec une stabilité beaucoup plus forte que son concurrent, Queen Mary, dont le sérieux problème de roulis ne sera résolu qu'avec l'adjonction de stabilisateurs, en 1958.

Au-dessus de la flottaison, le dessin n'est pas moins remarquable. Toute la conception de l'avant, outre la volonté évidente de créer une silhouette inhabituelle et esthétique, témoigne d'un souci de défendre le navire contre la mer et de faire en sorte qu'il puisse continuer à faire route à grande vitesse dans le mauvais temps. En arrière de l'étrave, les flancs très fortement déversés déterminent une grande largeur et dégagent des surfaces importantes au niveau du pont-promenade, ce qui va permettre de donner une longueur exceptionnelle aux superstructures.

Le soin apporté au dessin de la coque vaut pour l'ensemble des lignes du navire. Un grand transatlantique navigue essentiellement contre la mer et le vent lorsqu'il voyage vers l'Ouest. La vitesse du navire, voisine de 30 noeuds dans le cas présent, s'y ajoute pour créer un vent apparent contraire extrêmement fort. La résistance à l'avancement est donc non seulement dans l'eau, mais aussi dans l'air. C'est en tenant compte de cette contrainte que s'élabore la silhouette du paquebot. A l'avant, traité avec un soin tout particulier, une sorte de carapace vient protéger et dissimuler l'ensemble des apparaux de manoeuvre, et l'entrelacs des mâts de charge cède la place à deux petites grues électriques. A l'arrière, les superstructures se referment doucement en une série de gradins semi-circulaires très architecturés.

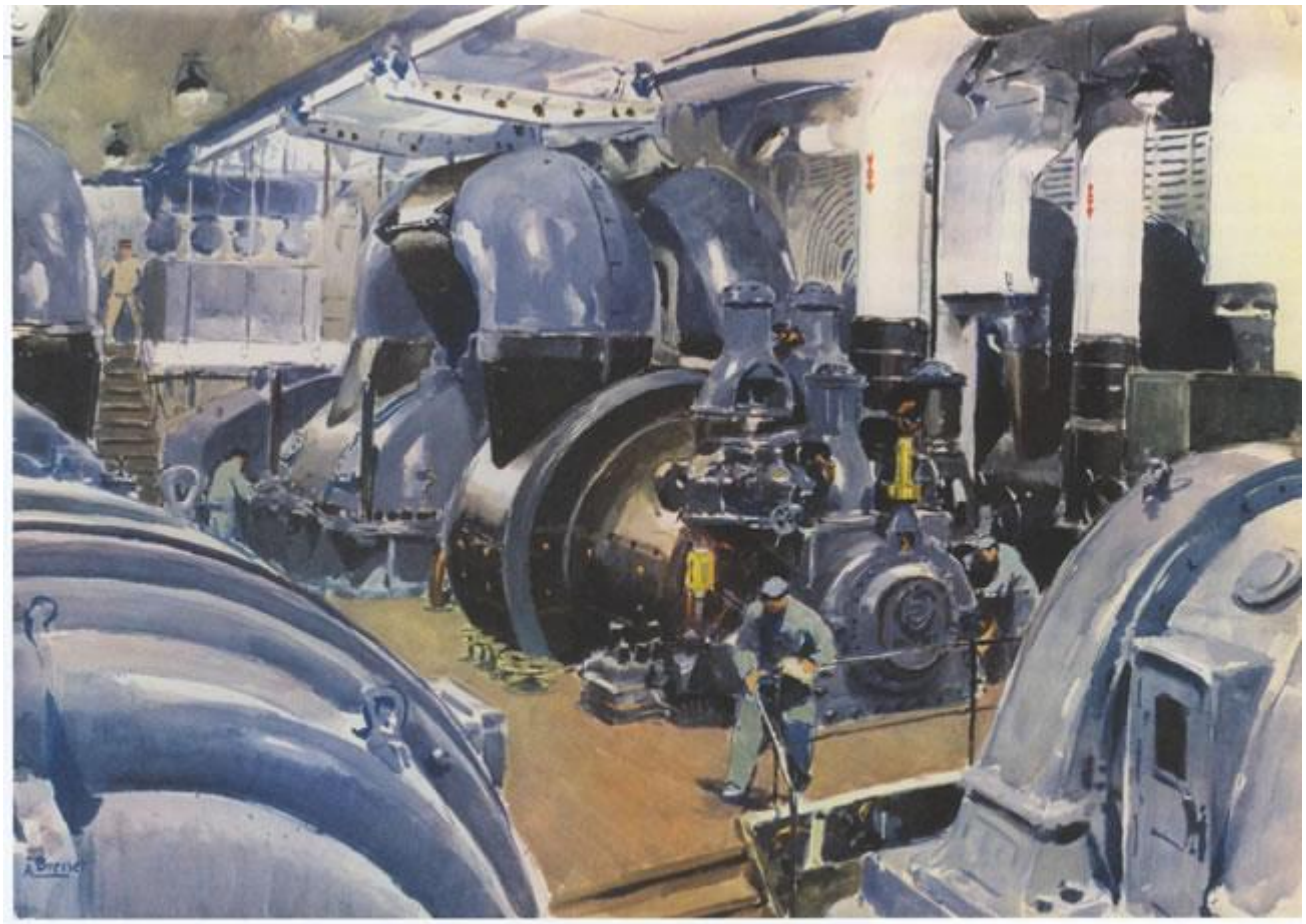
Sur les ponts supérieurs, l'ensemble des systèmes de ventilation est dissimulé dans des roufs, au pied des cheminées. Entre celles-ci, les passagers de première classe pourront circuler sur de vastes esplanades habillées de teck, et découvriront, à partir de 1936, entre la deuxième et la troisième cheminée, un court de tennis aux dimensions réglementaires. Ces cheminées jouent un rôle essentiel dans l'élaboration de la silhouette; ce sont elles qui vont finir de donner à Normandie son allure inimitable. Elles sont au nombre de trois — dont deux seulement sont opérantes —, par souci esthétique, mais surtout parce que trois cheminées permettent à la poussée du vent de se répartir harmonieusement sur l'avant, le milieu et l'arrière; ainsi le navire, bien équilibré, manoeuvre-t-il mieux.

Leur forme est inédite. Chacune est fortement évasée à la base, pour tenir compte de la séparation verticale des conduits entre les chaudières et les parties hautes, et comme ancrée dans les superstructures. Vues d'en haut, elles affectent la forme de gouttes d'eau, inclinées vers l'arrière; ici encore, on relève la volonté de réduire la résistance à l'avancement. La touche finale va consister à donner aux cheminées une hauteur décroissante, de l'avant vers l'arrière, pour créer l'illusion que le paquebot est en mouvement.

Une puissante usine électrique au service d'une technologie de propulsion d'avant-garde

Reste à relever un immense défi: propulser le géant aux vitesses attendues. La technologie de l'attaque directe des lignes d'arbres par les turbines, périmée à la fin des années vingt, est d'emblée écartée. Le moteur Diesel étant lui aussi exclu pour ces niveaux de puissance

et de vitesse, la seule alternative raisonnable paraît être le recours à de gros réducteurs engrenés.



Vue par Albert Brenet, la salle des turbo-alternateurs qui produisent le courant électrique distribué aux moteurs de propulsion, avec (à l'arrière-plan à gauche) le pupitre de manœuvre.

Pourtant, les ingénieurs français renoncent à adopter ces réducteurs; nul n'en a véritablement l'expérience en France, surtout sur de fortes puissances, et on craint qu'ils ne constituent des sources importantes de bruit et de vibrations. Dès 1929, Alsthom a confirmé qu'il lui serait possible de développer une technologie utilisée outre-Atlantique sur quelques navires : la propulsion turbo-électrique. C'est ainsi que l'on dotera Normandie d'une des plus puissantes usines électriques de l'époque. Comme sur un navire classique, les chaudières produisent de la vapeur, qui est introduite dans les turbines. Mais ces dernières, au lieu d'attaquer directement les hélices, ou d'être couplées à un réducteur, se trouvent associées à des alternateurs qui produisent du courant électrique. Le courant est ensuite transmis à de puissants moteurs qui entraînent les hélices.

Même si elle représente, au stade de la réalisation, un véritable défi technique, la propulsion turbo-électrique offre plusieurs avantages théoriques: le silence et l'absence de vibrations liées à la propulsion; la possibilité de battre en arrière à pleine puissance en basculant un simple commutateur, sans préavis, un navire à quatre hélices ainsi équipé manoeuvrant avec aisance; une souplesse de fonctionnement extraordinaire. Avec le dispositif retenu, quatre groupes turbo-alternateurs entraînant quatre moteurs de propulsion, il est possible, en fonction des circonstances, de varier le mode d'association des équipements.

En arrière des chaufferies, se trouve l'appareil de propulsion proprement dit, avec les quatre groupes turbo-alternateurs destinés à alimenter les moteurs de propulsion, leurs

L'une des photos les plus spectaculaires de *Normandie* en construction : rois mois après la pose de la première tôle, le double-fond prend forme entre deux rangées d'échafaudages.

condenseurs et leurs auxiliaires, ainsi que les six turbo-dynamos qui produiront l'électricité du bord, hors propulsion : le "vaisseau de lumière" nécessitera une puissance électrique équivalente à 18000 chevaux, plus qu'aucun navire de l'époque.

Les quatre groupes turbo-alternateurs seront capables de développer 33 400 kilowatts (plus de 45 000 chevaux), à une vitesse de rotation maximum de 2430 tours/minute. Chacun des énormes moteurs de propulsion, d'une puissance nominale de 40000 chevaux, mais capable de produire 50000 chevaux en super surcharge, sera produit sous licence General Electric par les usines Alsthom de Belfort. Choix audacieux mais parfaitement maîtrisé, la propulsion turbo-électrique sera l'une des vraies originalités de Normandie, mais peut-être aussi l'un de ses plus grands luxes, qui se devine sur les photographies, où l'on découvre une salle des machines splendide et immaculée. Adopter la propulsion turbo-électrique va permettre à la French Line d'affirmer que Normandie est décidément le navire le plus moderne du monde.

Sur un navire où doivent vivre plus de 3 000 personnes pendant près d'une semaine, l'eau représente un problème délicat. A l'époque, on ne sait pas réaliser à cette échelle un système de production d'eau douce à partir de l'eau de mer, comme celui dont France sera doté un quart de siècle plus tard. Il faudra donc embarquer la totalité de l'eau douce consommée par l'appareil évaporatoire comme par les passagers et l'équipage. Pour ces derniers, on va définir cinq circuits différents, en fonction des usages: eau douce chaude et froide, eau salée chaude et froide, eau potable (pour un volume modeste: 546 mètres cubes).

L'ensemble des chasses d'eau fonctionnera par exemple à l'eau salée, de même que, dans les classes inférieures, 99 douches et 75 baignoires.

Autre élément de confort essentiel sur un navire: la ventilation. Hormis l'immense salle à manger des premières classes, dotée de l'air conditionné, l'ensemble des locaux sera desservi par 72 thermotanks, d'un débit pouvant varier de 6 000à plus de 30 000 mètres cubes par heure, et par 12 ventilateurs d'un débit de 6 000 à 27000 mètres cubes par heure.

Dans la tourmente financière des années trente, le projet est sauvé par l'intervention de l'Etat

Le 29 octobre 1930, la CGT passe commande aux ACP, pour un montant révisable de 700 millions de francs. Aux dires de l'armateur lui-même, le coût du paquebot à la livraison, au printemps 1935, se limitera à 627 millions, ce qui témoigne d'une belle maîtrise économique de la part du constructeur. Le 26 janvier 1931, la construction débute, avec la mise sur cale et la pose de la première tôle. Le projet, qui ne porte encore aucun nom de baptême, est désigné "T6" par les chantiers. Tout irait pour le mieux si la situation financière de la French Line n'était pas déjà dramatique.

La conjoncture des échanges internationaux a commencé à se dégrader très vite après la catastrophe boursière du 24 octobre 1929. Ce retournement intervient au plus mauvais moment pour la CGT, qui a poursuivi sa politique d'investissements, et lancé la construction de quinze navires en dix-huit mois. Les capacités augmentent alors que le trafic se contracte brutalement sur l'Atlantique Nord, et que le nombre des passagers transportés par la compagnie entre Le Havre et New York baisse de 10 % de 1929 à 1930. En 1932, le trafic transatlantique aura globalement diminué de moitié par rapport à 1928. L'exercice 1929 reste bénéficiaire, de 18 millions de francs seulement. En 1930, la situation est déjà grave, avec 65 millions de pertes. La CGT se met alors à emprunter massivement, et lance une série d'emprunts obligataires. Puis la Transat fait appel au Trésor afin de rembourser par anticipation une série d'emprunts souscrits à l'étranger.

L'Etat est alors devenu le premier créancier de la French Line. Le 27 février 1931, un mois après le début de la construction de Normandie, la compagnie informe de ses difficultés les ministres de la Marine marchande, des Finances et du Budget et demande une nouvelle garantie. René Fould s'empare alors du dossier et tente d'amener le groupe des Chargeurs réunis, présidé par Léon Cyprien-Fabre, dans le tour de table de la CGT, en négociant parallèlement 120 millions de nouveaux concours bancaires.

Cette tentative ne peut cependant empêcher un nouvel appel à l'Etat. Le gouvernement prend alors conscience de l'imminence d'une défaillance de la compagnie et de l'enjeu que représente la sauvegarde du pavillon français. Le 13 juin, il répond favorablement aux différentes demandes de la Transat. C'est alors que le plan de sauvetage s'écroule brutalement: le groupe Chargeurs se retire, et avec lui l'espoir de mobiliser les concours bancaires nécessaires à la survie immédiate.

Ne reste plus dans ces conditions qu'à déposer le bilan, ou à s'en remettre à l'Etat. Celui-ci confirme son intervention le 22 juin, mais prend le contrôle de l'armement par cession pure et simple à son profit des actions à vote plural détenues par la Compagnie financière transatlantique. Il remédie à la défaillance du secteur bancaire, apporte sa garantie à un emprunt de 160 millions à souscrire auprès de la Caisse des dépôts, et exige la démission du conseil d'administration. Enfin, un effort très important est demandé à un autre grand créancier de la Transat: René Fould accepte deux années de moratoire sur les 141 millions dont la compagnie est redevable auprès des ACP.

Le 3 juillet 1931, les députés entérinent l'ensemble de ces dispositions. La CGT a désormais les moyens de faire face à ses engagements de l'année en cours, elle a formellement échappé à la faillite et à la liquidation, au prix d'une transformation en société d'économie mixte, qui équivaut de fait à une nationalisation. Un nouveau conseil d'administration est chargé, à titre provisoire, de suivre le redressement de la compagnie jusqu'à l'établissement de son statut définitif. Le nouvel homme fort s'appelle Henri Cangardel, nommé administrateur-directeur général. Secondé par un jeune inspecteur des Finances, Pierre Laure, il s'appuie sur les travaux de la commission Germain-Martin pour définir un plan de redressement draconien. C'est dans ce contexte que débute le chantier du projet T6 à Saint-Nazaire.

Fin première partie

Inséré le 14/01/15 Dossier Enlevé le 14/02/15

The Red Canal: Uncertainties Surround Nicaragua's New Waterway Project

By Jens Gluesing

Nicaragua is soon to begin construction on a new canal connecting the Caribbean Sea with the Pacific Ocean. But even as up to 30,000 people face resettlement, details on the Chinese-funded mega-project remain sparse.

Wearing orange overalls and sun hats, the Chinese arrived in Río Brito by helicopter before being escorted by soldiers to the river bank -- right to the spot where José Enot Solís always throws out his fishing net. The Chinese drilled a hole into the ground, then another and another. "They punched holes all over the shore," the fisherman says. He points to a grapefruit-sized opening in the mud, over one meter deep. Next to it lie bits of paper bearing Chinese writing. Aside from that, though, there isn't much else to see of the monumental and controversial project that is to be built here: The Interoceanic Grand Canal, a second shipping channel between the Atlantic and Pacific.

The waterway is to stretch from Río Brito on the Pacific coast to the mouth of the Punta Gorda river on the Caribbean coast. Beyond that, though, curiously little is known about the details of the project. Only Nicaraguan President Daniel Ortega and his closest advisors know how much money has already been invested, what will happen with the people living along the route and when the first construction workers from China arrive. Studies regarding the environmental and social impact of the undertaking don't exist.

The timeline is tight. The first ship is scheduled to sail into Río Brito, which will become part of the canal, in just five years. When completed, the waterway will be 278 kilometers (173 miles) long, 230 meters (755 feet) wide and up to 30 meters (100 feet) deep, much larger than the Panama Canal to the south. A 500-meter wide security zone is planned for both sides of the waterway. And it will be able to handle enormous vessels belonging to the post-panamax category, some of which can carry more than 18,000 containers.

Thus far, only a few dozen Chinese experts are in Nicaragua and have been carrying out test drilling at the mouth of the river since the end of last year. They are measuring the speed at which the river flows, groundwater levels and soil properties. Not long ago, police established a checkpoint at the site and it is possible that the entire area will ultimately be closed off.

For now, though, the region remains a paradise for natural scientists and surfers. Sea turtles lay their eggs on the beach and a tropical dry forest stretches out behind it to the south, reaching far beyond the border into Costa Rica. But if the river here is dredged and straightened out as planned, the village on Río Brito will cease to exist.

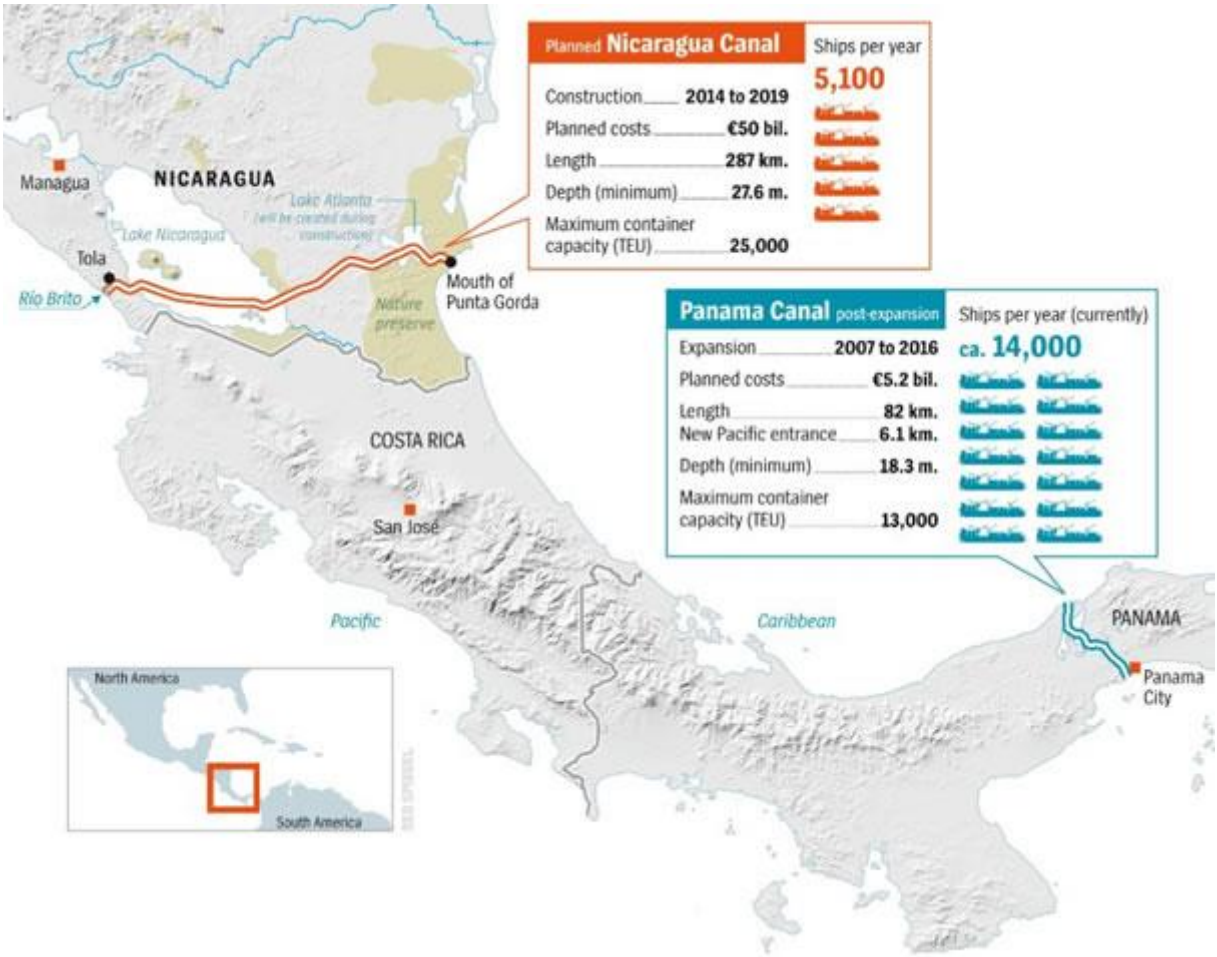
No Answers

The project has created massive uncertainty for those who live here and ever since the arrival of the Chinese workers, they have been wondering when they will be resettled and how much the government will provide as compensation. Thus far, they haven't received any answers. And they aren't alone: A total of 30,000 people live close enough to the

planned canal route that they will likely have to be resettled, but an exact number has yet to be announced.

Employees of a Chinese company are currently going door-to-door to collect details on residents and property. But with opposition to the project rising, they are accompanied by police and soldiers armed with Kalashnikovs. Thousands of locals along the route have begun protesting against their impending expropriations with several demonstrations having taken place in just the last few weeks. Many of the signs they carry read: "No Chinos!" The anger has become so intense that police have begun patrolling outside of the Chinese engineers' headquarters in the provincial city of Tola.

But disdain for the project is not universal, leading to a growing split in the country. Many Nicaraguans welcome the Chinese investment and hope that the canal will bring in jobs and prosperity. Others fear a flood of Chinese immigrants.



Making matters worse is the raft of questions surrounding the project. At first glance, the geography looks ideal for the canal. Lake Nicaragua provides a natural waterway in the country's interior, with just 20 kilometers separating the lake from the mouth of Río Brito. But breaking through to the Caribbean on the other side promises to be difficult. The area is swampy, hardly developed and populated by indigenous peoples. Thousands of square kilometers of forestland would have to be cleared.

It is also unclear if the undertaking will ever be profitable. The Panama Canal is currently being expanded and several other Central American countries are planning "dry canals" consisting of train lines connecting the two oceans across the isthmus. In order to be competitive against the others, the Nicaragua canal would have to transport a vast amount

of freight. Furthermore, the small country has neither the money nor the know-how for a project of this magnitude.

Stranglehold on Power

None of these problems, however, seem to be of much concern for the president, hoping as he is that the canal will cement his legacy. But Ortega is far from the first to dream of such a thing. For 200 years now, the idea of a waterway connecting the two oceans has been one pursued by both Nicaraguan leaders and the country's US occupiers. The Sandinista revolutionaries likewise expressed interest in the project for a time.

Ortega was one of the comandantes who led the 1979 Sandinista revolt against the dictatorship of Anastasio Somoza. In 1990, the Sandinistas were voted out of office, but Daniel Ortega returned to power in elections seven years ago. Since then, he and his family have established a stranglehold on power in the country. The opposition is divided and he faces little resistance in the country's parliament. At the beginning of the year, Ortega pushed through a constitutional amendment allowing him to stand for re-election indefinitely. Critics accuse him of ruling the country like Somoza did, just without the torture.

The erstwhile socialist Ortega has cemented his power by making peace with the church and with the country's business leaders. Furthermore, his Sandinistas have firm control of the Judiciary, Parliament and the Executive while Ortega's children own several television channels. He is fond of presenting himself as a kind of Christian savior.

Ortega's wife, Rosario Murillo, is the government spokeswoman, but in reality she has much more power than that. People in the country refer to the esoteric First Lady as "La Bruja," the witch. In the capital Managua, she has installed gigantic steel trees covered with thousands of lights on important arterials. They are lit up throughout the year as though it were eternally Christmas -- many of them are decorated with glowing stars, reindeer and Santas. She has also had several public buildings painted pink, her favorite color.

Because Nicaragua is unable to build the canal on its own, Ortega brought the Chinese on board as a partner. Ever since the revolution, the Sandinistas have had close relations with the Communist Party of China. Two years ago, the president sent his son Laureano to Beijing to explore the possibilities for economic cooperation.

Making Contacts

During a meeting with several Communist Party luminaries, Laureano Ortega was approached by businessman Wang Jing, who introduced himself as a representative of the telecommunications company Xinwei. The two became friends and Laureano invited Wang for a visit to Managua. The government granted him a license for the expansion of the telephone network, but ultimately revoked it because he proved unable to fulfill his pledges. Still, Wang's company established branch offices in a pink-colored high-rise in Managua known as the "Freedom Building."

It must have been during this period that the idea for the canal was developed and that Wang pledged $50 billion in financial backing. Where the money comes from remains unclear. Critics believe that the businessman is a straw man for the Chinese government. Latin America, after all, is strategically important for China, particularly when it comes to the country's need for raw materials and foodstuffs. The canal would drastically increase Chinese influence on the continent and would likewise provide it with control over a key transit point for global trade, similar to the advantage the US once enjoyed when it controlled the Panama Canal.

In June 2013, Daniel Ortega and Wang Jing signed the canal construction agreement. It grants the Chinese a 50 year concession with the option to extend it for another half a century. To carry out the project, Wang founded the HKND Group, with headquarters in Hong Kong. Stakeholders, however, have been kept anonymous and the company belongs to a consortium that is registered in the Cayman Islands. The legal firm Wang hired to represent him in Managua provides no information about the company and Wang himself did not respond to repeated attempts to contact him.

The government commission responsible for the project -- appointed by President Ortega -- likewise keeps an oddly low profile. Its offices are in a yellow villa and there is no sign indicating the commission's function. Police officers photograph passing cars through an observation slit.

Inside, the friendly Mr. Kautz is standing with his secretary. Manuel Coronel Kautz, 82, is president of the commission and a longtime companion of the president's. He is a trained agricultural engineer specialized in animal husbandry, but he is obsessed by the canal. For years he has been arguing in favor of its construction and once even tried to talk a Dutch company into building it.

'Dream Come True'

Fascination with the canal is something of a tradition in Kautz's family. His grandfather, a German engineer from the Alsace, likewise dreamed of a waterway between the seas, coming to Nicaragua in 1856 to develop a blueprint for the country's president. "I am now seeing his dream come true," Kautz says. Critics, though, doubt that Kautz really has much say in the canal project. "Ortega is abusing the old man as a figurehead," says Carlos Fernando Chamorro, a journalist and Ortega detractor.

Chamorro is particularly critical of the fact that the Nicaraguan people have never been consulted about the project even though the canal would drastically change the country. "The concession was handed out without input from the public," he complains, adding that the Sandinistas pushed the required legal framework through parliament in just a few days. "They ignored constitutional guarantees and handed control over to the military. In reality, the project serves to launder money. A small clique is hoping to enrich itself," Chamorro claims.

He isn't alone with his theory. Attorney Mónica López Baltodano, a specialist in environmental law, agrees that something fishy is afoot. She is a leading opponent of the canal project and has filed a constitutional complaint against the concession at the Inter-American Commission on Human Rights. She spent months studying the 120-page long concession contract and has published her conclusions in book form.

"The concession violates fundamental rights. The government has sold us to the Chinese," Baltodano says. "We are granting them rights to shipping and to our waterways. That is a violation of our sovereignty." In addition, she adds, Lake Nicaragua, one of the country's most important sources of drinking water, will be destroyed. But the country's leaders appear unmoved by such arguments.

Inséré le 16/01/15 BOEKEN LIVRES Enlevé le 16/02/15

Logboek van De Kogge

B O O K R E V I E W door : Frank NEYTS

Recent verscheen bij Davidsfonds Uitgeverij een interessant boekwerkje onder de titel

‘Logboek **van De Kogge. Een Middeleeuws schip gestrand in ’t zand**’. Graafwerken voor de uitbreiding van de haven van Antwerpen, meer bepaald in het Deurganckdok, een zijarm van de Schelde, legden in 2000 een kogge bloot. Het middeleeuwse eikenhouten schip bevond zich in uitzonderlijk goede staat. Algauw rezen de eerste vragen. Hoe komt zo’n groot schip in de regio van Doel terecht? Op zijn kop dan nog! Vanaf wanneer ligt het daar? En wat kan deze unieke vondst ons leren over het verleden? De vondst van De Kogge in het Deurganckdok is van groot belang. Na jarenlang archeologisch en natuurwetenschappelijk onderzoek geeft ze haar geheimen prijs. In dit boek bericht De Kogge zelf over haar indrukwekkende geschiedenis. Je achterhaalt samen met haar waar ze overal aangemeerd kan hebben en wat er mogelijk in haar laadruimte lag, je leest over hevige stormen en overstromingen en je leert meer over het drukke handelsverkeer in de veertiende eeuw.

‘**Logboek van De Kogge’** (ISBN 978 90 5908 53 05) werd door Davidsfonds Uitgeverij als softback uitgegeven. Het boek telt 119 pagina’s en is rijkelijk geïllustreerd. Het boek kost 14,95 euro en is verkrijgbaar via de boekhandel.

Inséré le 16/01/15 NIEUWS NOUVELLES Enlevé le 16/02/15

Tankers vulnerable to terrorist attack

Tanker owners and operators should increase levels of security to counter the threat of an increasingly likely terrorist attack, maritime security company MAST has warned.

MAST issued the warning after Al-Qaeda hinted that it could execute strategic attacks on oil shipment choke points in its first issue of ‘Resurgence,’ an English-language digital propaganda magazine posted to the terrorist group’s online forum.

While ISIS activity has been the focus in the western media, the resurgence of Al-Qaeda and affiliate organisations is occurring alongside some of the worlds’ most strategically vulnerable and crowded waterways.

Gerry Northwood OBE, MAST COO, said: “The largely unforeseen consequences of the Arab Spring and the on-going civil wars in Syria and Iraq have allowed terrorist groups to get on the front foot. They have potential to do real harm to maritime activity in the Mediterranean, the Indian Ocean and particularly in the key strategic choke points – namely the Straits of Gibraltar, the Straits of Hormuz, the Suez Canal or the Bab El Mendeb Strait.”

A successful attack could have a powerful impact on the shipping industry. Traditionally, shipping is an area where terrorists have struggled to have a real impact, so it would be seen by Al-Qaeda as a big step forward and potentially a means to promote their cause.

Northwood said: “In the event of an attack, all crew members are at risk, particularly those on board vessels with hazardous cargoes. It is vital to have well worked up security procedures in place and to maintain heightened levels of alertness at all times. “Crew training and awareness, citadel drills and understanding of how quickly events can unfold are essential. There is no replacement for a good lookout and knowledge of pattern of behaviour, especially when approaching choke points, harbours, or any constrained area. These are the most vulnerable places where terrorists have a good chance of accurately targeting a vessel.

"The use of armed guards or unarmed security advisors provides extra support to the Master of the vessel, ensuring high standards of security awareness on board are maintained and that risk based mission planning has been conducted and applied to every aspect of the voyage.

"In high risk areas, such as choke points and high density local traffic, crew members should not be working in exposed positions, or in areas where they cannot reach the citadel quickly. Even if the terrorists are not intending to board, a bomb could be detonated alongside the vessel, which could injure personnel close by on the upper deck, or in adjacent internal compartments.

"Harbour authorities also need to think about how they control movements in the areas under their jurisdiction. A successful attack on a ship will require a lot of planning by the terrorist organisation, including reconnaissance on land and at sea. Harbour authorities should be vigilant and overt measures should be taken to restrict the movement of unauthorised vessels in the area," he concluded.

Inséré le 18/01/15 Dossier Enlevé le 18/02/15

Ship detention highlights need for legal framework for ship recycling

On June 6 2014, after receiving an alert from the Shipbreaking Platform – a non-governmental organisation comprising a coalition of environmental, human rights and labour organisations – the Flemish regional government in Belgium detained the Liberian-flagged, 45,500 deadweight tonnage car carrier Global Spirit (built in 1987) in Antwerp for alleged non-compliance with the EU Waste Shipment Regulation (1013/2006) and because it had been notified that, having reached the end of its service life, it would be beached at Alang in India (which is not a member state of the Organisation for Economic Cooperation and Development (OECD)). The vessel was loading a cargo of second-hand cars for a final voyage when it was arrested The Global Spirit detention was not a clear-cut violation as, on departing Europe, it was destined to travel to a West African port with cargo – not, as was alleged by the Shipbreaking Platform, to India for recycling. The issue was not submitted to court, but the Flemish government reached an agreement with the owners which guaranteed that the vessel would be dismantled and recycled in Turkey. The vessel was released and sailed on June 25 2014. In a subsequent press release the Flemish government stated that the Waste Shipment Regulation was not the appropriate instrument through which to detain the vessel and emphasised the importance of the Belgian government's commitment to speed up its ratification of the International Maritime Organisation (IMO) Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships. The ordeal highlights the interplay between EU regulations and international conventions on the matter of ship recycling.

Shipping and hazardous waste regulations Ships that constitute waste and are subject to trans-boundary movement for recycling are regulated by the Basel Convention on the Control of the Trans-boundary Movements of Hazardous Wastes and their Disposal 1989 and the Waste Shipment Regulation. The Waste Shipment Regulation implements the Basel Convention as well as an amendment made to the convention in 1995 (referred to as the 'ban amendment'), which has not yet entered into force at international level and which bans exports of hazardous waste to countries that are not members of the OECD. Such ships are generally classified as hazardous waste and are thus prohibited from being

exported from the European Union for recycling in facilities in countries that are not members of the OECD.

The mechanisms for monitoring the application and enforcement of existing EU and international laws are not adapted to the particularities of ships and international shipping. Inter-agency cooperation between the International Labour Organisation, the IMO and the secretariat of the Basel Convention has resulted in an agreement on the introduction of mandatory requirements, at global level, aimed at ensuring an efficient and effective solution to unsafe and unsound ship recycling practices – the Hong Kong Convention. However, legally accessible ship recycling capacity in OECD countries for ships flying the flag of an OECD member state is insufficient. Safe and environmentally sound ship recycling capacity in non-OECD member countries is sufficient to treat all ships flying the flag of OECD member states and is expected to expand further by 2015 as the result of actions taken by recycling countries to meet the requirements of the Hong Kong Convention.

Hong Kong Convention

The Hong Kong Convention was adopted on May 15 2009 under the auspices of the IMO. The convention will enter into force 24 months after ratification by at least 15 states representing a combined merchant fleet of at least 40% of the gross tonnage of the world's merchant shipping and whose combined maximum annual ship recycling volume during the preceding 10 years constituted at least 3% of gross tonnage of the combined merchant shipping of those states. The convention covers the design, construction, operation and preparation of ships with a view to facilitating safe and environmentally sound recycling without compromising ship safety and operational efficiency. It also covers the operation of ship recycling facilities in a safe and environmentally sound manner, and the establishment of an appropriate enforcement mechanism for ship recycling.

EU Ship Recycling Regulation

The new EU Ship Recycling Regulation (1257/2013) – which came into force in December 2013 and appears to follow the Hong Kong Convention closely – is intended to facilitate early ratification of the convention both within the European Union and in third countries by applying proportionate controls on ships and ship recycling facilities. The convention provides explicitly for parties to take more stringent measures consistent with international law in regards to the safe and environmentally sound recycling of ships, in order to prevent, reduce or minimise any adverse effects on human health and the environment. Taking this into account, the Ship Recycling Regulation should provide protection from the possible adverse effects of hazardous materials on board all ships calling at a port or anchorage of a member state while ensuring compliance with the provisions applicable to those materials under international law. According to the regulation's preamble, in order to monitor compliance with the requirements relating to hazardous materials under the regulation, member states should apply national provisions to implement EU Directive 2009/16/EC. At present, port state control inspectors are tasked with both the inspection of certification and active testing for hazardous materials, including asbestos, under the International Convention for the Safety of Life at Sea. The Paris Memorandum of Understanding on Port State Control provides a harmonised approach for these activities.

The preamble states that the Ship Recycling Regulation is also intended to:

reduce disparities between operators in the European Union, OECD countries and relevant third countries in terms of workplace health and safety and environmental standards; and direct ships flying the flag of an EU member state to ship recycling facilities that practise safe and environmentally sound methods of dismantling ships instead of sub-standard sites, as is the existing practice.This would therefore increase competitiveness in safe and

environmentally sound recycling and treatment of ships among ship recycling facilities in member states. The establishment of a European list of ship recycling facilities fulfilling the requirements set out in this regulation would also contribute to these objectives and to better enforcement by facilitating member states' control over to-be-recycled ships that fly the flag of the member state in question. For ship recycling facilities in a third country, the requirements should ensure a high degree of protection of human health and the environment that is broadly equivalent to that in the European Union. Ship recycling facilities that do not meet these minimum requirements should therefore not be included in the European list.

Overlap with Waste Shipment Regulation

In order to avoid overlap, it is necessary to exclude EU member state-flagged ships that fall under the scope of the Ship Recycling Regulation from the scope of the Waste Shipment Regulation and EU Directive 2008/98/EC. The Waste Shipment Regulation applies to shipments of waste from the European Union, subject to exclusions for certain categories of waste where an alternative regime applies. The Ship Recycling Regulation subjects ships within its scope to controls throughout their lifecycle and aims to secure recycling of these ships in an environmentally sound manner. It is therefore appropriate to specify that a ship subject to the alternative control regime under the Ship Recycling Regulation should not be subject to the Waste Shipment Regulation. According to the preamble of the Ship Recycling Regulation, ships covered by neither the Hong Kong Convention nor the Ship Recycling Regulation, as well as any waste on board a ship other than operationally generated waste, should continue to be subject to the Waste Shipment Regulation and to Directives 2008/98/EC and 2008/99/EC, respectively. It has also been acknowledged that ships continue to be subject to other international conventions to ensure their safe operation at sea during the operational part of their lifecycle.

Comment

The Waste Shipment Regulation and the Basel Convention (on which this regulation is based) were never intended to apply to international shipping or ships that are scheduled to be recycled. While the Waste Shipment Regulation is good for controlling the export of hazardous waste, it becomes flawed when regulating end-of-life ships. The relevant regime applicable to international shipping is the Hong Kong Convention. Although this instrument has not yet entered into force, it is fully supported by the international shipping industry and provides a sounder and far more relevant basis to determine whether a shipping company fulfils its responsibilities to ensure that redundant ships are recycled in a safe and environmentally sustainable manner. This compelled the European Parliament and the EU Council to develop the new Ship Recycling Regulation. Article 27 of this new regulation, once fully applied, excludes EU-flagged ships from the requirements of the Waste Shipment Regulation but does not exclude non-EU-flagged vessels. As Nikos Mikelis, former head of the IMO's maritime pollution prevention and ship recycling section, has stated:

"Owners of non-EU-flag ships intending to recycle their vessels now or in the future will have to walk a tightrope when trading in EU ports so as not to fall prey to the activists, who see their role in enforcing the Ban Amendment to ship recycling and also in banning beaching."

Source: Kegels & Co

Inséré le 20/01/02 NIEUWS NOUVELLES Enlevé le 20/02/15

Denmark Pays Up to Suspected Pirates

Nine suspected Somali pirates have received 19,600 Danish crowns (USD 3,247) each in compensation from Denmark for being detained too long before being brought before a judge, AFP cited the public prosecutor's office as saying on Monday.

The amount is staggering, having in mind that half of the Somali population live on a dollar a day.

The group of Somali pirates is suspected of having tried to hijack a Danish ship Torm Kansas in the Indian Ocean on November 10, 2013. The ship's armed security team manged to repel the attack.

NATO's counter-piracy Operation Ocean Shield warship HDMS Esbern Snare was the closest ship in the area and was directed to the scene.

During the night, the warship located a whaler and a skiff in the vicinity of the attack on the Danish vessel, boarded two small craft and detained nine suspected pirates.

The suspects were held 13 days in detainment before being brought before a judge. Under Danish law, a person must to be brought before a judge within 24 hours.

During a hearing by videolink the suspects said they were fishermen and that their vessels lost power. This and other factors led prosecutors to drop the case, AFP said.

The court decision on compensation comes just a few days after the European Court of Human Rights ordered payment of compensation to Somali pirates worth thousands of euros for failing to present "promptly" the accused men before a judge upon their arrival to the country.

The Maritime Piracy Humanitarian Response Programme (MPHRP) said that the decision of the EU Human Rights Court was repugnant and insulting to all seafarers who have survived piracy attacks.

The said court rulings on compensation to suspected pirates have hit headlines especially as the most recent developments saw a Vietnamese seafarer being shot dead by pirates in an attack on board a tanker vessel VP Asphalt 2 that took place on Sunday afternoon.

World Maritime News Staff; Image: NATO

Seychelles Court Acquits Suspected Somali Pirates

Three suspected Somali pirates have been acquitted by the Seychelles Court of Appeal with the court ordering pirates' repatriation, Seychelles News Agency reports.

The ruling overturned a previous decision by the nation's Supreme Court due to lack of evidence to prove the said individuals were indeed pirates.

Two of the three men were appealing against their 21 year sentence while the third one, a juvenile aged 16 was appealing against his 14 year sentence, the news agency informed.

The acquitted men were apprehended in January 2012 by a EU naval vessel off the Horn of Africa as part of a group of 25 suspected pirates.

During the operation the navy vessel forced the pirate group to release an Indian dhow with 15 Indian mariners held as hostages.

The EU signed a transfer agreement with the Republic of Seychelles in December 2009 aimed at the fight against piracy.

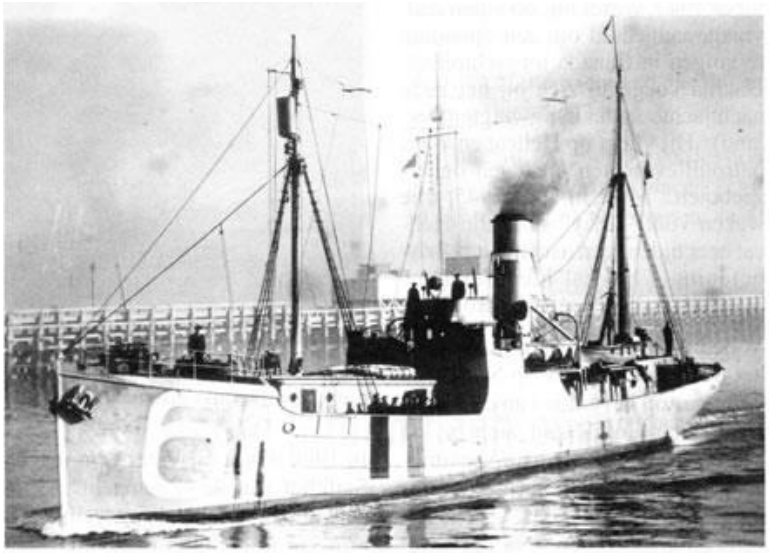
Ever since the Seychelles have assumed a major a role in achieving a legal finish against pirates in the region being considerably affected by piracy in the regional waters.

Based on October statistics from the Seychelles Prison Service, a total of 41 Somali pirates were still being held at the Seychelles Prison at Montagne Posee, 25 pirates being already sentenced and the remaining 16 still awaiting trial.

Inséré le 03/02/15 HISTORIEK HISTORIQUE Enlevé le 03/03/15

De loodsboten van het Marinekorps

In 1920 kocht het Belgische Betuur van het Zeewezen drie Admirality trawlers van de Britse Royal Navy. Het ging om de HMS John Ebbs-FY3566, de HMS James Adams-FY3555 en de HMS Brigadier-FY1530. Ze werden respectievelijk omgedoopt tot loodsboot (of pilote) A4, A5 en A6. De 'A' in hun naam stond voor loodsboot "de l'Ancienne série". De A4 en de A5 behoorden tot de 'Mersey'-klasse en waren sinds 1917 in dienst. Ze werden gebouwd bij Cochrane & Sons in Selby en hadden een waterverplaatsing van 324 grt. De A6 behoorde tot de 'Military'-klasse en dateerde van 1915. Dit vaartuig mat 303 grt en was gebouwd bij Smith's Dock Co. Ltd. in Middlesbrough.



De patrouilleur A6 omgebouwd tot oorlogsschip in 1939

Foto: L Van Ginderen

Deze drie trawlers vervulden tussen 1920 en 1939 loodsdiensten voor de Belgische kust. Het uitbreken van de Tweede Wereldoorlog in september 1939 zou hier echter verandering in brengen. De toenemende oorlogsdreiging, maar vooral het acute probleem van de drijvende mijnen in de territoriale wateren noopten de Belgische regering ertoe om in de schoot van de landmacht een kleine krijgsmarine op te richten. Dit 'Marinekorps' zou echter met een serieus probleem worden geconfronteerd: België beschikte niet meer over oorlogsschepen. Om deze leemte op te vullen wendde majoor Decarpentrie, de bevelhebber van het korps, zich tot de directeur-generaal van het Zeewezen (Henry De Vos). Deze regelde op 26 oktober 1939 de transfer van de A4 en de A6 naar het Marinekorps. Hij had beslist enkel deze oudere eenheden af te staan, omdat de modernere loodsboten (MLB1316) nodig waren om de loodsdiensten te blijven verzekeren.

Na hun transfer naar het Marinekorps werden de A4 en de A6 omgebouwd tot 'oorlogsschepen'. Dit hield de installatie van bewapening in. Een kanon van 47 mm werd geïnstalleerd op een daartoe geconstrueerd platform op het achterdek. Verder werden twee mitrailleurs van het type Maxim met een driepikkel op de brug gemonteerd. De installatie van deze bewapening was echter erg rudimentair: de munitie werd opgeslagen in gewone kasten op de brug, dichtbij het platform en er werd geen enkele vorm van bescherming tegen granaatinslagen voorzien voor de bemanning en de munitie. Op de romp werd de Belgische vlag en het woord 'België' geschilderd. Beide loodsboten werden bij het 1ste Escadrille van het Marinekorps ingedeeld, en als 'patrouilleur' geklasseerd. Hun taken waren het patrouilleren van de Belgische wateren, en het bestrijden van mijnen.

Een onderzoek van de vaartuigen door Decarpentrie bracht een aantal belangrijke nadelen aan het licht bij de toch wel zeewaardige vaartuigen. De diepgang van de loodsboten (4.50m) was te groot om over alle Vlaamse zandbanken te kunnen varen, waardoor de inzetbaarheidsmogelijkheden afnamen. Een ander gebrek was de extreem lange tijd, veertien uur (!), die nodig was om voldoende druk te krijgen op de stoommachine, waardoor men meer dan een halve dag moest wachten vooraleer men kon uitvaren. Men kon dit probleem wel verhelpen door ook in de haven de machines constant onder druk te houden, maar dat had een enorme stijging van het steenkoolverbruik tot gevolg. Een derde nadeel van de twee vaartuigen was het feit dat maar tegen een snelheid van negen knopen kon worden gevaren, wat het controleren en enteren van vreemde vrachtschepen geen gemakkelijke opgave zou maken.

In januari 1940 werd ook de A5 overgedragen aan het Marinekorps. Dit vaartuig werd op gelijkaardige manier uitgerust, en zou eveneens bij het Eerste Escadrille worden ingedeeld. Een derde eenheid was noodzakelijk, opdat op elk ogenblik één vaartuig op zee zou kunnen worden gehouden, terwijl de twee andere in onderhoud of op verlof waren.

Mitrailleur van het type Maxim aan boord van de A4, A5 en A6

Foto: L. Van Ginderen

Tijdens de phoney-war, de periode tussen het uitbreken van de Tweede Wereldoorlog en de Duitse inval in België, voerde één van de drie loodsboten bijna dagelijks patrouillevaarten uit langs de Belgische kust. Enkel wanneer de weersomstandigheden dermate slecht waren, bleven ze in de haven. Op 21 februari 1940 begeleidde de A4 het schoolschip Mercator, bij zijn vertrek op zijn twintigste kruisvaart. De voornaamste opdracht van de drie loodsboten was echter de mijnenbestrijding. Dit gebeurde op een primitieve wijze, met het kanon, de mitrailleurs of geweren. Andere mijnenveegapparatuur was niet voorhanden. Toch slaagde het Marinekorps er in om ruim tachtig zeemijnen te vernietigen, waarvan de loodsboten het grootste gedeelte voor hun rekening namen. Zo maakte de A4 tenminste 33 stuks onschadelijk, de AS vijftien en de A6 vijfentwintig.

Onmiddellijk na de Duitse invasie van 10 mei 1940 vertrokken de drie loodsboten naar Duinkerke om er gedemagnetiseerd te worden. Tijdens deze trip escorteerden ze de Belgische stoomschepen Amethyste en Turquoise. Op 19 mei waren ze terug in Oostende. De A4 werd nog dezelfde dag naar Engeland gezonden met een hoeveelheid goud en waardepapieren van de Nationale Bank aan boord. Het is echter niet duidelijk of het om vijfhonderd miljoen Belgische frank ging of 2,5 miljard. De AS en de A6 verlieten België enkele dagen later richting Engeland, samen met de meeste andere vaartuigen van het Marinekorps. Het grootste gedeelte van de Belgische ('oorlogs'-)schepen werd tot 13 juni 1940 te Dartmouth door de Engelsen vastgehouden. Enkel de A6 mocht generaal Pouleur met zijn staf naar Frankrijk brengen. In de nacht van 2 op 3 juni namen ook drie eenheden van het Marinekorps deel aan de evacuatie van Duinkerke, waarbij meer dan vijfhonderd Franse soldaten in veiligheid werden gebracht. De AS had er hiervan 234 voor haar rekening genomen. Tijdens de inscheping ontplofte er een bom vlak bij dit vaartuig, waarbij één bemanningslid (tweede meester Hermie) en vijf Franse soldaten gewond werden.

Op 13 juni mocht het Marinekorps Dartmouth verlaten. De vaartuigen bereikten de volgende dag Lorient, maar moesten daarna steeds zuidelijker vluchten, als een gevolg van de Duitse opmars in Frankrijk. Uiteindelijk bereikten de drie loodsboten, samen met de andere overblijvende eenheden van het Marinekorps St.-Jean de Luz, dichtbij de Spaanse grens. Om aan Duitse gevangenneming te ontkomen besliste majoor Decarpentrie richting Spanje te vluchten. Zes vaartuigen, waaronder de A4 en AS, bereikten Bilbao, waar ze geïnterneerd werden door de Spaanse autoriteiten. Drie eenheden (waaronder de A6) bleven echter in St-Jean de Luz, omdat hun bemanning aan het muiten was geslagen. De twee loodsboten die in Spanje aan de ketting lagen, bleven tot na de Tweede Wereldoorlog in Spanje, ondanks een Duits opeisingsverzoek. Na de oorlog keerden ze

naar België terug. De A6 werd door de Kriegsmarine in beslag genomen, en diende als Vorpostenboot V1815. Ze ging door geallieerde actie verloren.

J. Van Raemdonck
Bronvermelding
J. Van Raemdonck, Het Belgische Marinekorps 1939-1940 (onuitgegeven licentiaatsverhandeling, KUL), Leuven, 1999.
NEPTUNUS OKTOBER - OCTOBRE 99 189

Inséré le 24/01/15 BOEKEN LIVRES Enlevé le 22/02/15

"Tall Ships Today".

B O E K B E S P R E K I N G by : Frank NEYTS

Adlard Coles Nautical issued '**Tall Ships Today. Their remarkable Story"** written by Nigel Rowe, Rons Dadswell, Colin Mudie & Michael Rauworth. Preface from HRH The Duke of Edinburgh. The spectacular sight of a tall ship under sail or in port recalls a bygone age of adventure, romance and national heritage.This book – supported and endorsed by Sail Training International – is a celebration of tall ships today. It shines a spotlight on the world's most interesting and glamorous tall ships, the excitement and drama of sailing and racing on them, and the evolution in tall ship design and technology.

The four chapters cover: Origins and Evolution: a fascinating perspective on the development of tall ship design, technology and navigation as well as their role in international trade and conflict. The Tall Ships: a celebration of more than 100 of the most interesting and famous tall ships sailing today, with beautiful photography, key statistics and brief history. The Tall Ship Experience: the adventure of sailing on a tall ship for people of all ages, a truly life changing experience for the young, and valuable training for cadets preparing for a career at sea. Racing on Tall Ships: competition at sea and ashore for the young people taking part, and the most spectacular gatherings of tall ships for the millions of spectators in port. With unique access to the very best photography and up-to-date information, this stunning book showcases just why tall ships continue to inspire and captivate people all over the world. **Highly recomended.**

"**Tall Ships Today**" (ISBN 978-1-4729-0346-4), is a hardback of 224 pages and costs £30.00. The book can be ordered at any bookshop, or direct with the publisher, Adlard Coles Nautical, 38 Soho Square, London W1D 3HB,UK. www.adlardcoles.com

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Inséré le 26/01/15 NIEUWS NOUVELLES Enlevé le 24/02/15

Euronav Could Benefit From The Return Of The Oil Contango

Euronav could do quite well in 2015 due to higher charter rates, lower expenses and the benefit of a spread in the oil futures. At this point in time it would be profitable for an oil trader to buy oil on the spot market and forward sell it. Euronav's Q4 should have been a

very strong one, and I'm looking forward to see some numbers I started covering Euronav approximately 13 months ago and the share price has moved up roughly 67% now after the company signed a deal with Maersk whereby Euronav would purchase its fleet of VLCC tankers. This transaction happened at the bottom of the market and if Euronav would sell the VLCC's right now, it would very likely record a profit of $15M per VLCC. Besides this, there are three important changes on the market which could further boost Euronav's financial performance. Euronavs CAP LAURENT seen moored at Jurong Island last Tuesday morning

1. The charter rates What's more interesting however was the sudden surge of the daily charter rates for VLCC's and Suezmax vessels in November. The charter rates suddenly increased to in excess of $50,000 per day for a VLCC and an astonishing $85-90,000 per day for Suezmax tankers which were the highest levels in approximately five or six years time. Euronav hasn't released an operational update since then and I do hope the company locked in some very lucrative longer term contracts when the charter rates were booming.Late in November, Euronav's CEO said the company was 'printing cash' as its break even rates for its vessels were much lower at just $30,000 per VLCC and $25,000 per Suezmax vessel.

2. The lower oil price The lower oil price is a blessing for Euronav in many ways. Contrary to what one might think, the demand for oil transport actually went UP as several countries are increasing their strategic oil reserves. China, for instance, has accelerated its program to purchase more oil for its strategic reserves and accounts for a large chunk of demand for oil tankers. Additionally, the average voyage is now longer so a contract will count for more operating days thus further increasing the visibility of future earnings and revenue.On top of that, the operating expenses will be much lower. One of the largest costs for any shipping company is the fuel cost. Now the oil price has effectively been slashed in half, Euronav's operating expenses per vessel per day should be decreasing as well. Keep in mind that every decrease of $1000/day/vessel results in an additional operating cash flow of almost $20M per year which will have a direct impact on the bottom line. Unfortunately Euronav hasn't provided any more detailed numbers on this (the company rarely provides operating updates inbetween quarterly reports) but I do believe the lower oil price could save the company at least $40M per year.

3. The spread on the oil futures market After several years of triple digit oil prices, volatility returned in the oil sector and the price of crude crashed. This opened up some opportunities for traders though and Frontline expects a higher demand for its vessels to serve as floating storage instead of a mean of transportation.

Source

Let's have a look at the oil futures market to prove my point here. If an oil trader would buy a barrel of oil with physical delivery in February, they would have to pay $48.21 per barrel. As you can see, the price for oil further in the future is higher than today. If the trader would sell the same barrel with a delivery date in June, it would receive $51.19 per barrel which means there would be a direct profit of $2.98/barrel.Let's now look at the bigger picture here.

A VLCC can store roughly 2 million barrels. So if a VLCC would be used as storage for oil, a trader could store 2 million barrels and pocket a gross profit of $5.96M. There are 17 weeks between the February and June delivery dates which means a trader would need to pay approximately 119 days for storage. This means that if the daily cost of a VLCC is less

than $50,000, the trader would make a profit by buying oil and selling it again in 4 months time.At the current VLCC rates, this is a very valid strategy as the cost of chartering a VLCC right now will be lower than the potential profit on flipping the oil in four months from now. Additionally, an oil trader might even negotiate a lower charter rate with the vessel owner as it's likely the VLCC won't have to travel ten thousand miles but could rather be waiting in a port (or outside a port) whilst the time ticks away, thus reducing the operating expenses for Euronav. Conclusion Euronav is up almost 70% in a year time and it's not unlikely the share price will take a break and consolidate around the 10-10.5 EUR region. However, it does look like the tanker market might be in a perfect storm and Euronav is in an excellent position to benefit from this as it now has an expanded and rejuvenated fleet. I'm really looking forward to see the financial results from Q4 2014 and I hope the company's net debt position will have been further reduced.

Source : Seeking Alpha

Inséré le 28/01/15 DOSSIER Enlevé le 28/02/15

3D printing – the future of maritime spare parts?

3D printing is one of the latest technologies hyped as the 'next big thing', with many eager to see it has the next great revolution in manufacturing. In the maritime context, could 3D printing help to make storage of spare parts on board a thing of the past? Digital Ship examines the possibilities.

The world of 3D printing, also called additive manufacturing, is currently going through a growth explosion, with worldwide shipments of 3D printers set to grow by nearly half in 2013 as the technology increases its presence in mainstream industry.

According to research company Gartner, worldwide shipments of 3D printers (3DPs) priced less than $100,000 will grow 49 per cent in 2013, to reach a total of 56,507 units.

And this is just a starting point – Gartner notes that rapid quality and performance innovations across all 3DP technologies will drive enterprise and consumer demand to the extent that shipments will increase further in 2014, growing 75 per cent to 98,065 units, followed by a near doubling of unit shipments in 2015.

Modern 3D printers can be small enough to fit on a desk top, or as large as a refrigerator, depending on their complexity

"The 3D printer market has reached its inflection point," said Pete Basiliere, research director at Gartner.

"While still a nascent market, with hype outpacing the technical realities, the speed of development and rise in buyer interest are pressing hardware, software and service providers to offer easier-to-use tools and materials that produce consistently high-quality results."

"As the products rapidly mature, organisations will increasingly exploit 3D printing's potential in their

laboratory, product development and manufacturing operations."

"In the next 18 months, we foresee consumers moving from being curious about the technology to finding reasons to justify purchases as price points, applications and functionality become more attractive."

The research firm predicts that 3D printing will have a high impact on industries such as consumer products, industrial and manufacturing; a medium impact on construction, education, energy, government, medical products, military, retail, telecommunications, transportation and utilities; and a low impact on banking and financial services and insurance.

"The hype around consumer 3D printing has made enterprises aware that the price point and functionality of 3DP has changed significantly over the last five years, driving increased shipments beginning in 2014," said Mr Basiliere.

"Most businesses are only now beginning to fully comprehend all of the ways in which a 3DP can be cost-effectively used in their organisations, from prototyping and product development to fixtures and moulds that are used to manufacture or assemble an item to drive finished goods."

"Now that many people in the organisation, not only the engineering and manufacturing department managers but also senior corporate management, marketing management and others, have heard the hype, they want to know when the business will have a 3D printer."

Further research by The McKinsey Global Institute has reiterated the point that the use of 3D printing is spreading quickly, pointing to the fact that the machinery is improving, the range of materials is expanding, and prices for both printers and materials are declining rapidly.

The price for a home 3D printer decreased by 90 per cent in just four years, with more than 6,500 3D printers shipped in the United States in 2012, the institute reported. The Institute notes that the machines are used mostly for assembling models and prototypes, but have also been used to make intricate aerospace components and even replacement human organs.

In its 18th annual report on additive manufacturing published last May, Wohlers Associates forecasted strong double-digit growth over the next several years, expecting the 3D printing industry to be worth $4 billion in 2015, to approach $6 billion worldwide by 2017, and to reach $10.8 billion by 2021.

With acceptance of the technology growing at such a rate, what might the implications be for the shipping sector?

In theory at least, the maritime industry should be among those with the most to gain from this kind of technology – when your business premises are travelling across the oceans, popping down to a supplier's warehouse becomes slightly more difficult so the ability to manufacture items on site has a certain appeal. Modern ships are continually required to order and stock large numbers of spare parts and supplies to make sure that they are not caught short when needs arise out at sea. Could 3D printing change the way that this process is managed?

How it works

3D printing, or additive manufacturing, is a layering process. Rather than being created by casting or stamping, the object is built up layer by layer. Although the principle remains the same, the term covers a range of different techniques.

The birth of 3D printing, moving from the inkjet printers that printed with ink to those that could create objects using new materials, can be traced back to 1984 when Charles Hull

invented a process called stereolithography – a type of printing that would allow a tangible 3D object to be created from digital data.

The early days of 3D printing in the 1990s saw the technology begin to be used for 'rapid prototyping', but evolved over the years into what is now called additive manufacturing.

The major difference in the systems moving in this direction is that in prototyping you are designing something with the parameters of the machine that will construct it later in mind, whereas additive manufacturing aims to create the finished article – letting you completely change the way you design parts.

RedEye, a 3D printing company already supplying services to the aeronautical and automobile industries, currently uses two main techniques in its 3D printing.

One of these, as Tim Thellin, project manager at RedEye, explains, is called Fused Deposition Modeling (FDM), while the other is Polyjet.

"(The FDM) process uses a thermoplastic material that is melted through a fine nozzle. It's like a hot glue gun except that a very precise and very fine extrusion comes out of that," he told Digital Ship.

"The other technology we use is called PolyJet. It's similar to 2D printing except that instead of printing out a pixel, you're actually printing out a voxel, which is just a three-dimensional pixel. It juts out the entire layer and then it 'cures' that layer with a UV light."

3D printing has many potential advantages over traditional manufacturing, including the fact that it can be used for the production of small numbers of items rather than the large numbers usually involved with a factory production line.

The items created using modern technologies can also be dynamic, including moving parts that do not need to be assembled – for example, in 2008 the first person successfully walked on a 3D printed prosthetic leg that had all of its parts, such as the knee, foot and various sockets, printed in the structure without any assembly.

"Complexity is not really an issue with this technology," says Mr Thellin.

"You can produce a complex shape that can't be injection moulded, for example. The shapes can have undercuts, internal holes, internal cavities, things that can't be injection moulded."

"You can build an assembled part all as one piece, without having to print them individually and then assemble it after. You can build that part, it's already functional, and you can put it right into end-use, into the application as needed, without somebody having to assemble all pieces together. So you reduce the labour and the time to get that part to where it needs to be used."

The RedEye project manager says that 3D printers could be taken on board ships and that the Fused Deposition Modeling technology could work even in rough seas. Smaller 3D printers are not much bigger than a 2D printer and can fit on a desk top, while others can be the size of a large industrial refrigerator.

"The FDM technology has been tested in zero gravity," he notes.

"And the FDM technology proved to work very well. The system itself could build under zero gravity for example, it could build with some movement to it and it didn't affect the part coming out of it."

It should be noted that, in contrast to FDM, competing technologies using resin or powder need a stable environment.

The type of spare parts in question would also have a significant effect on the viability of 3D printing technology in the maritime setting. From the outset at least, rubber or plastic items with reasonably simple designs would seem the most realistic target.

ShipServ's rankings of the top 20 Product category searches by maritime buyers on its ShipServ Pages system over last five years show that Auxiliary Engine parts are at the top of the list in terms of spares.

While this category might be quite specialised and feature parts a little complex for the early days of on board 3D printing, the second placed category, Valves, is probably more suitable in terms of what could be produced with reasonable ease today.

From an engineering point of view a valve could be reproduced without great difficulty if it was done accurately and with sufficient strength to hold up to the pressure it would encounter when in use.

Other categories in the top 20 list, such as Pumps at number 5, Metal, Steel & Rubber Supplies at number 14, and Pipe Repair Products and Pipes & Tubes (numbers 17 and 18 respectively), could also conceivably benefit from the ability to 3D print spares on board as required using current technologies.

Limitations

The real limitations for 3D printing in its current state rest elsewhere.

"Because it's a layering process, it may not be as strong as an injection moulded part. Injection moulding is going to make more of a uniform part," Mr Thellin admitted.

"You don't want to have super-thin features or walls. You want to build those up so that there is enough volume there to have the strength requirement."

"(However), if you have a part that is designed correctly and built correctly, it will match pretty closely (to) the quality of an injection mould part. It could be anywhere from 80 per cent of the strength value or greater."

Mr Thellin also notes that, "today in general the process is slow." For instance, it may take four to six hours to make a small air louver for a car. He predicted however that speed would increase over time.

Another obstacle may reside in the size of the data necessary to build a part.

"Typically we start with a three-dimensional file that comes from a CAD (Computer-aided design) application. That file is then converted into an STL (STereoLithography) file; it's the industry standard file format, it's just a 3D representation of a CAD file," Mr Thellin explained.

"We take that file into our proprietary software, where we actually slice it into the layer resolutions we're going to build it as. It then calculates the tool path that it's going to use to lay down that plastic bead."

"So the STL file can range anywhere from a few hundred kilobytes all the way up to 200-300MB, they can get pretty big depending on how big the part is and how fine the resolution is on all the features. And that would be about the same for the tool path files we actually build on the system. Those typically range from a couple megabytes to 100-200MB in general."

Transmitting this amount of data to a ship would require a significant amount of bandwidth and, while it would presumably only be undertaken by someone using a flat-fee service and would therefore not directly impact any airtime bills, it would still constitute a large amount of traffic.

Therefore, the most likely scenario would see a ship maintain a local database of digital files for the specific spares on board, given that terabytes of storage is significantly cheaper than even the cheapest satcom contracts.

"For storage, all it would require is a simple file server. You would just have to have a lot of space to keep all the geometries you want to keep in a digital inventorial so to speak," said Mr Thellin.

Potentially, such a set-up could link with something like the Shipdex initiative, the non-profit project aiming to create digital databases to simplify the effort involved in populating planned maintenance databases.
Shipdex files already include drawings and schematics for various shipboard components – why not also link a 3D printing file within the same database?

"Shipdex has standardised the exchange of technical manuals in electronic format, including a spare parts catalogue, which means we have an electronic XML file for every spare parts catalogue and the file contains the list of all spare parts with relevant information," said Marco Vatteroni, manager of Shipdex.

"For every spare part it could be possible (where requested) to attach the relevant 3D file and send them on board, together with all the Shipdex documentation."

"Moreover, Shipdex data can be automatically uploaded into a CMMS (computerised maintenance management system) and then the 3D files could also be available in (the software's) database."

Another alternative to maintaining a database of all of the parts on board would be to reverse engineer specific components as required, Mr Thellin says.

"If you could digitally scan the part, that would be another way to get it to a 3D file where it could be buildable as a replacement part," he explained.

Scanning would create a file within a CAD-type interface where you might have to do some slight editing, Mr Thellin says, with the file then converted into the STL format.

Of course, the cost involved with these technologies today are still an obstacle. Scanners cost a couple of thousand dollars for low end technologies, and up to $10,000 to $50,000 for high-end machines. A high-performance 3D printer itself may cost between $10,000 and $500,000.

In addition to the cost there is also the issue of compliance with various rules and regulations to consider – for example, depending on the classification society that the vessel is registered with there may be specific requirements or recommendations about the types of spares that need to be carried on board for various systems.

While machinery such as engines or turbines might be potentially be more flexible when it comes to changing the rules, safety systems in particular, such as fire safety systems for example, are likely to require physical stores of spares for a long time to come regardless of the ship's ability to 3D print these parts on board.

Time frame

The issue of how soon this technology might be ready to make a practical contribution to spare parts management on board is one that divides opinion, with some insisting that 3D printing has reached a stage where it could be used on-ship today, while others are sceptical of seeing any significant headway for the technology in maritime in the next decade.

Mr Thellin of RedEye is among those excited about the current possibilities, as he believes that a 3D printer could be used to produce a spare part at sea immediately.

"I would argue that that could happen right now," he said, adding that it could make sense financially in current conditions, compared to the costs of shipping a part to a distant vessel.

"If you compare those costs relative to the cost of having a machine on board being able to produce that replacement part on demand, it seems like financially you could put together a whole of a lot that would justify it. I believe you could do that today."

On the other side of the fence is Hans Oxvang Mortensen, senior manager at MAN Diesel & Turbo, a manufacturer of some of the systems and spare parts that would be part of any grand 3D printing future.

Mr Mortensen's company already has experience of 3D printing technology, having used such systems itself already as part of its production operations, though primarily as a prototyping technique.

"We have invested in 3D printing for the last year and half," Mr Mortensen said.

"The 3D printers are mainly used for design purposes - that means identifying design details and visualising design elements."

For example, MAN has already 3D printed the prototype of a water mist catcher and installed it on a test engine for evaluation purposes.

"Normally we would manufacture this in various forms of steel or iron," said Mr Mortensen.

"But in this case, we manufactured it on our 3D printer as a plastic component. This worked very well for our testing."

Mr Mortensen notes that using this technique saved the company "a lot of money" compared with creating the prototype in steel and iron, evaluating the cost difference in this case to be in the region of €5,000.

However, despite these successes, Mr Mortensen believes that the industry is still some distance from being able to apply this technology to replace spares in a practical manner.

"It wouldn't be relevant (for) spare parts at the present stage, but only as a prototype testing facility," Mr Mortensen said.

"We do look ahead to the very promising scenario but it is very much related to the development of material technologies, and also to the development of the size and price of the components you can print."

Mr Mortensen thinks that it is still more economical to store spare parts on board or have them delivered, rather than 3D printing them, and points to the continuing requirement to keep certain spare parts on board as likely to hinder 3D printing development.

"Anything related to the safety or propulsion of the ship, they have to have the spare parts on board. That would be a general requirement from all classification societies," he said.

Mr Mortensen also suggests that other spare parts are so large that they need to be made in a factory, while smaller items will suffer from the competition offered by current cheaper production processes.

"Why should a ship install a relatively expensive printer on board?" he asks. "In many cases, the logistics is far enough to support the ship with the spare parts."

Some of Mr Mortensen' s strongest reservations about 3D printing in the marine environment, as it currently stands, relate to the materials available, particularly in relation to steel parts – obviously a major component in a variety of ship spares.

"It can be done today but the quality is not at a decent level. It still needs some technological development before that could be relevant," he said

"It could be relevant for emergency spare parts or prototype spare parts like fuel nozzles or different kinds of valves and so on."

"But very many of these components actually need a surface grinding also. We still need the improvement in the surface quality of 3D printing. Or you would have to, on board the ship, be able to do some grinding."

In the end, Mr Mortensen says that he sees possible applications for 3D printing in maritime only if material technology improves, and only for smaller components.

"Still, I would say, you are a minimum 10 years ahead of the reality," he said.

Regardless of which side of the argument is more convincing when it comes to the suitability of 3D printing for maritime use at the moment, the technology is certain to see significant development in the years ahead, likely to lead to better and stronger materials and the ability of the printers to handle more sophisticated designs.

Eventually this should lead to a scenario where most spare parts could be realistically produced on board the ship. However, by that time it may be too late – once the consumer can print their own flat screen TV or family hatchback without having to have it physically delivered from half the world away the shipping industry as we know it will be facing a whole host of new challenges to its survival.

Perhaps 3D printing an entire newbuild ship itself for the cost of a few tons of printer toner will then be the only answer... DS

Inséré le 30/01/01 Dossier Enlevé le 30/02/15

Nigeria bans armed guards on merchant vessels

The latest security advisory for Nigeria issued by the Baltic and International Maritime Council (BIMCO) effectively renders the use of armed guards commercially placed on merchant vessels illegal and is highly likely to have major repercussions for the ship owner and the charterer should they be caught with unauthorised armed police or marine police on board, says maritime security company GoAGT. According to BIMCO, there have been a number of 'blue on blue' incidents in the last six months and the industry as a whole is concerned about the safety of crew transiting the region. The warning comes exactly a month after a merchant vessel was boarded near Port Harcourt. Its cargo was stolen while the crew were held hostage, despite the presence of a Nigerian naval vessel in the vicinity.

Nick Davis, CEO of GoAGT, said: "BIMCO has taken a strong, proactive stance on this issue. The incident a month ago was entirely preventable with the use of an unarmed adviser and a good radar lookout. The crew were very lucky not to have suffered injury; had they been able to react more quickly and retreated to the citadel the situation would have diffused quickly. The primary concern should be the safety of the personne. Theft in the Gulf of Guinea is unfortunately something ship owners and managers have to deal with and with an adviser on board vessels can avoid a hostage situation during a boarding.

" Currently the use of armed guards in the region falls into a legal grey area, he added. "Ship owners and managers being offered so-called 'authorised' armed protection within the Gulf of Guinea by Private Maritime Security Companies are well advised to seek advice from BIMCO, their flag state and the local Nigerian embassy or consulate for the latest advice and protocol prior to parting with money for a service that could have severe operational interruption to normal trading."

Source : ftwonline

Merchant Vessels Warned to Beware Hire of Armed Guards Against Pirates

NIGERIA – The situation with regard to piracy, hijackings and theft of all types from freight and passenger vessels and particularly those concerned with energy extraction, transiting the waters off the country's coast is already dangerous and confused enough without an element of political infighting and the confusion which has arisen when personnel from different branches of local law enforcement have clashed over who has primacy on the open sea. Last October a skiff abelieved it to be manned by a pirate group. The boat actually contained a Nigerian Naval patrol which drove the shooters into the vessel's citadel from which they were later extracted and arrested.

This is just one of many similar incidents which have arisen as confusion over where geographical jurisdiction starts and finishes is made more difficult by 'private' security escort arrangements with officials made by shady middle men. Certainly the Nigerian Navy seemingly has charge of matters in the Exclusive Economic Zone (EEZ) an area extending up to 200 nautical miles seawards from the coasts of Nigeria within which the country's authorities reserve the right to regulate by law any and all actions which they see fit.

The problem is, which authorities? The Navy also has powers extending to inshore waters when acting as part of the Niger Delta Joint Task Force whilst the Nigerian Maritime Safety Agency (NIMASA), also seems to claim some interest in anything occurring within the EEZ.

NIMASA is run by Mr. Ziakede P. Akpobolokemi, whose current agency is allegedly linked to Government Ekpemupolo, poacher turned gamekeeper and the billionaire who was formerly a commander (and alleged military quartermaster) of the Movement for the Emancipation of the Niger Delta (MEND) who now, after receiving amnesty five years ago, is alleged to be the power behind Global West Vessel Specialist Ltd. which offers security surveillance in the EEZ acting for NIMASA. NIMASA in turn is linked to the Nigerian Ports Authority (NPA) which says it collaborates closely with other government security agencies, namely the Marine Police and the Nigerian Navy, to regularly patrol and provide air surveillance for water fronts and river channels to battle the menace of piracy in and around the country's ports. In addition, the port management department says it provides high speed patrol boats to assist the 'security agencies' in their patrols and surveillance.

It seems 'arrangements' have been made with all and sundry to protect private shipping, a job many have proved woefully inadequate at, with Nigerian Maritime Police being hired out under 'private' contracts only to be subsequently arrested and detained by the Navy which has been charged by new leadership to clean up the whole scene.

One of the groups most affected by the disastrous security situation in the region are the members of the Baltic and International Maritime Council (BIMCO) which is currently seeking written confirmation from the Nigerian authorities of how it sees the situation. The BIMCO view is explained fully in a recent statement to its members which reads:

"BIMCO members operating vessels within the Nigerian EEZ and territorial waters should be aware that they may be at risk of potentially significant liabilities and delays if they employ armed guards on board their vessels who are sourced from the Nigerian Marine Police, the Nigerian Police or the Joint Task Force (JTF). The Nigerian Navy only provides vessel escorts and it is understood to have sole primacy and authority in territorial waters and the EEZ, BIMCO has been advised that the Nigerian Navy does not provide or permit armed guards on merchant vessels.

"The Navy has seemingly begun enforcing its alleged authority to prevent the employment of armed guards on board and this has resulted in the arrest of members of the Nigerian

Marine Police and consequent delays to the vessel and unresolved liabilities placed on the owners. This appears to apply regardless of whether the armed guard policemen are sourced by an agent or a private military security company (PMSC). "There have also been reports of incidents of 'blue on blue' where policemen have opened fire on Nigerian Naval vessels believing they were pirates and where seafarers have been killed or injured in the crossfire. Apparently, the Marine Police and Police only have primacy and jurisdiction in 'riverine' areas and ports and harbours out to the fairway buoy and no further. "The JTF against terrorists, is a combined task force of navy and police, with a specific role to counter oil theft and smuggling in the Delta. The JTF is understood to have no jurisdiction outside this remit. The transit of supply vessels up the Bonny River to Port Harcourt is arranged by the JTF and these ships go in convoys (for a charge) whilst the offshore oil export Terminals are patrolled by private security units or the Nigerian Navy. "It would seem that the only legitimate method of acquiring armed security protection in territorial waters and the EEZ of Nigeria is by utilising the services of the Nigerian Navy (although, this seems to exclude armed guards on board vessels)."

Source : handyshippingguide

Inséré le 01/02/02 BOOKS LIVRES Enlevé le 01/03/15

RMS Queen Elizabeth

B O O K R E V I E W By : Frank NEYTS.

In the series '**Classic Liners**", The History Press recently published the book "**RMS Queen Elizabeth**", written by **Andrew Britton**. This book tells the story of RMS **'Queen Elizabeth**', the ship which, along with her running mate 'Queen Mary', successfully worked Cunard's transatlantic service for much of the twentieth century. She was launched in September 1938, the largest passenger liner built at the time and for many years after. Entering service as a troopship in the Second World War, she had a successful career before retiring in 1968, after which she was sold to a Hong Kong businessman with plans to convert her into a floating university. But it was not to be and she capsized in a mysterious fire in Hong Kong harbour in 1972, a bizarre and unbecoming end for one of Cunard's most faithful servants. Andrew Britton delves into his comprehensive maritime collection to present a wealth of unpublished photography and ephemera, including menus, aerial photography and even 'Queen Elizabeth's original purchase receipt, to cover every detail of this historic liner. "**RMS Queen Elizabeth**" (ISBN 978-0-7524-7951-4) is issued as a softback and counts 120 pages. It costs £19.99. The book can be bought in any good bookshop, or direct from the publisher, Mssrs The History Press Ltd, 160 Eastern Avenue, Milton Park, Abingdon, Oxfordshire, OX14 4SB, UK. www.thehistorypress.co.uk.

Inséré le 01/02/02 Dossier Enlevé le 01/03/15

VLCCs- a contango market developing?

Observations on the price of VLCC assets would suggest a contango market is developing, McQuilling Services said in a recent industry note.

A contango market implies that prices of an asset will be higher in the future than today. For example, in the oil markets, a contango exists when future oil prices are expected to be higher than current prices. This is typically illustrated through the futures market whereby prices for future delivery are more than the spot levels.

Figure 1 - Newbuilding Prices VLCC

Source - McQuilling Services.

In the VLCC asset market, we believe the recent rise of newbuilding prices, compared to their five-year old counterparts, may also be demonstrating a contango market, McQuilling said.

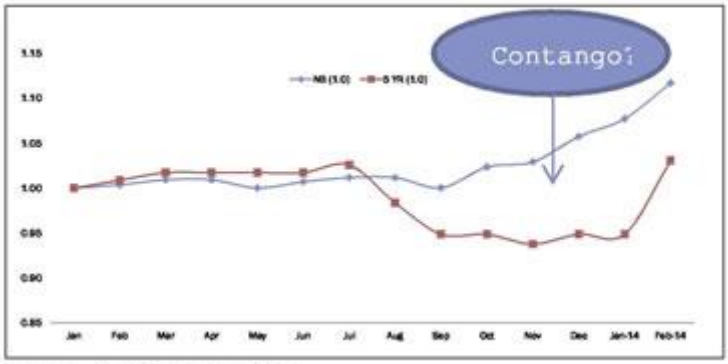
Prices for VLCC newbuildings have been on an impressive upward swing during the last few months after remaining relatively flat for most of 2013.

The current price for a VLCC newbuilding is about $97 mill, a healthy $10 mill more than the average price for 2013. At the same time, prices for five-year old vessels dipped last year only to recover in the last couple of months.

Newbuilding prices represent the futures market for asset buyers, due to the required construction period, while five-year old asset values correspond with the spot market.

In order to better understand the correlation, we displayed the asset price divergence by plotting the newbuilding and five-year value side-by-side with a starting base of 1.0 for each.

Figure 2 - 5-YR vs. N/B Asset Values Jan 2013 - Feb 2014 (1.0-Base)



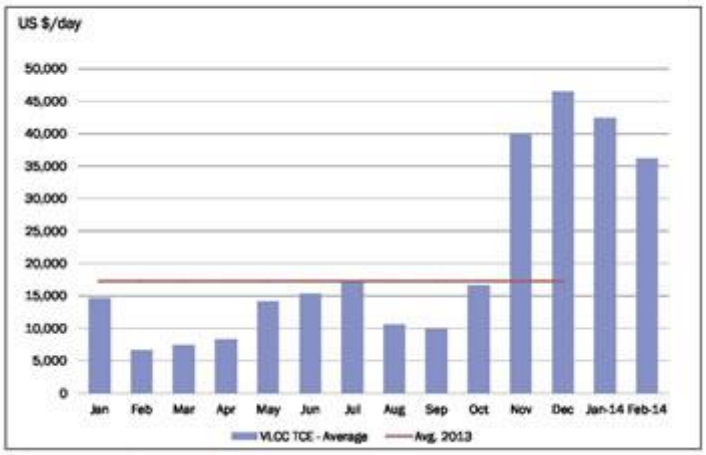
Source - McQuilling Services.

By adjusting the base factor of 1.0 for the percentage increases/decreases on a monthly basis, we can clearly show the deviation that began in the summer of last year (Figure 2).

While there may be several factors behind the uncoupling, which began in July, the implication is for improving crude transport markets in the long-run, compared to the short-term.

Given the current VLCC deliveries scheduled for this year (19) and in 2015 (32), we concur with this view, although rates have recently shown strength helping five-year old values accelerate in February of this year, the consultancy said.

Figure 3 - TCE Earnings - VLCC Jan 2013 - Feb 2014 (US$/day)



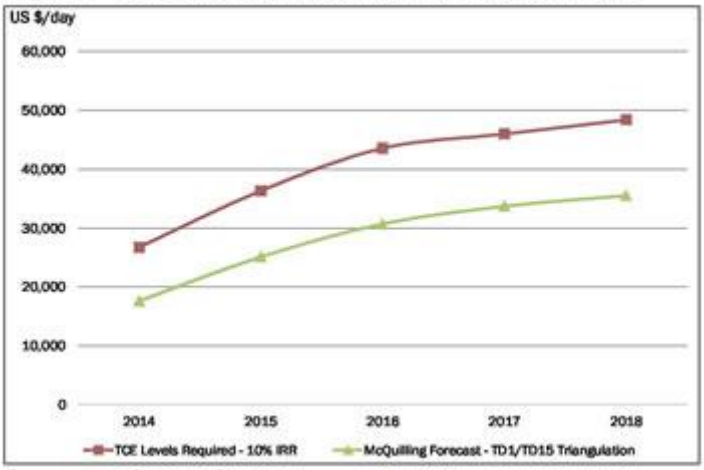
Source - McQuilling Services.

In Figure 3, we plotted the VLCC earnings during 2013, which may explain the weaker performance for five-year old vessel values for most of the year.

During the summer months of 2013, we witnessed a drop in TCE levels, which was duly represented in the prices of five-year old vessels during the same period (Figure 2). However, sustained improvement in the TCE levels during the last four months provided initial support and a boost in values as displayed for February (Figure 2).

Our outlook is consistent with the asset buying behaviour just discussed, although in absolute terms, higher rates may be required, McQuilling warned. In our recently published 2014-2018 Tanker Market Outlook, we used proprietary data to project the earnings for vessels across eight classes. While we expect earnings to be pressured this year, a gradual rebound should transpire.

Figure 4 - TCE Sensitivity - 10% Discount Rate 2014-2018



Source - McQuilling Services.

Using the current purchase price of a five-year old VLCC ($60 mill) and our projected value for a 10-year old VLCC in 2018, we illustrated the required TCE rates for an owner to achieve a 10% IRR (Figure 4). If the market can sustain the momentum that began late last year, smiles may once again return to the faces of VLCC owners.

In conclusion, we highlighted what may be a market indication that brighter days may be ahead for the crude tanker market, but probably not immediately. The recent contango development may be an early sign of an improving longer term trend.

However, we remain cautious about the short-term fundamentals within the industry, particularly on the supply side. Continued ordering of new tonnage may reverse the sentiment at the back end of the forecast period, McQuilling said.

Inséré le 22/01/15 HISTORIEK HISTORIQUE Enlevé le 22/02/15

Le paquebot Normandie (2ième partie)

Envers et contre tout, les travaux débutent avant la confirmation de la commande

La construction de Normandie progresse vite, malgré la tempête que traverse la compagnie. Dans les premiers temps, on monte environ 750 tonnes d'acier par mois, puis

le rythme s'accélère, jusqu'à environ 1500 tonnes en 1932, avec 2000 ouvriers employés. La construction est classique, avec une coque rivetée, même si pour la première fois, sur les éléments sans enjeu particulier en termes de résistance, la soudure est utilisée à grande échelle.

Début mars 1931, un peu plus d'un mois après la pose de la première tôle, une partie du fond est en place. En avril, la cale de construction devient disponible sur 310 mètres. Les travaux commencent sur le tiers arrière du navire. En juin, le double fond est en place, et l'on commence à poser les cloisons transversales. En novembre, la construction atteint le deuxième pont au-dessus du plafond des chaufferies. Fin 1931, 12000 tonnes d'acier ont été posées.

Au début des études, en 1929, au vu du trafic transatlantique, mais aussi des parités entre franc, livre sterling et dollar, la Transat pensait que le futur Normandie équilibrerait aisément ses comptes, amortissements compris. Cette perspective se trouve dramatiquement remise en cause en 1931, 1932 et 1933, tant par l'effondrement du trafic que par les dévaluations de la livre et du dollar. En 1933, au creux de la dépression, la Transat ne transporte plus que 42000 passagers sur la ligne de New York avec l'ensemble de sa flotte, alors que la capacité théorique du seul T6 atteint 80000 passagers par an. A mesure que les conditions se dégradent, l'équation économique du projet devient impossible à résoudre: la solution ne pourra passer, à nouveau, que par l'Etat, non seulement pour la couverture des amortissements, mais aussi, semble-t-il, pour celle des déficits d'exploitation.

De gauche à droite : Henri Cangardel, administrateur-directeur général de la Compagnie générale transatlantique, en compagnie de William Bertrand, ministre de la Marine marchande, et de Fernand Coqueret, directeur des chantiers de Saint-Nazaire.

L'administrateur-directeur général de la Transat trouve dans la haute administration du ministère de la Marine marchande deux alliés de poids: le directeur des services de la flotte de commerce, André Haarbleicher, et son adjoint, Jean Marie. Au sein de la compagnie, Cangardel complète son équipe en faisant venir auprès de lui Henri Morin de Linclays, ensuite nommé représentant général de la Transat en Amérique du Nord. C'est ainsi qu'envers et contre tout, la Transat se trouve en situation de confirmer sa lettre de commande du 29 octobre 1930. Le contrat entre la CGT et les ACP date du 6 avril 1932, alors que le grand paquebot est en chantier depuis plus de quinze mois. En juillet 1932, Henri Cangardel est rejoint par le nouveau président de la French Line, le gouverneur général Marcel Olivier.

Malgré un contexte des plus difficiles, le T6 progresse de façon spectaculaire. Dès le début de l'automne 1931, on commence à poser les bordés, et la coque prend forme progressivement. Au printemps 1932 se dessine la carapace avant. En juin est mis en place l'étambot, l'immense pièce dotée de gonds qui supportera le gouvernail. Puis c'est le pont-promenade, à la hauteur d'un sixième étage, qui apparaît dans le courant de l'été, à un moment de grande tension, lié à de nouveaux risques d'interruption des travaux, qui reporteraient le lancement à 1933.

Le 13 juillet 1932, le conseil d'administration retient, sur proposition des chantiers, la date du 29 octobre suivant pour le lancement. Il est confirmé qu'Albert Lebrun, nouveau président de la République, participera à la cérémonie, et que son épouse sera la marraine du navire. Mais en août, alors que l'on met tout en oeuvre pour lancer le paquebot à la date prévue, les ouvriers du chantier se mobilisent afin d'obtenir une nouvelle convention

collective qui évite des baisses de salaire. Ne pouvant risquer une grève, la direction cède, car il reste encore à achever les parties hautes des superstructures.

Alors qu'approche le lancement, il devient urgent de donner un nom au paquebot. Un groupe proche des syndicats nazairiens suggère "Aristide-Briand", d'autres défendent "Belle France" ou encore "Suffren". Tout se complique lorsque le ministre de la Marine marchande propose très officiellement à la veuve de Paul Doumer, assassiné avec le roi de Yougoslavie à Marseille le 1e1 mai 1932, de donner au paquebot le nom de l'ancien président de la République. Or, ce nom, prononcé à l'anglaise, aurait une consonance désagréable, doomed désignant ce qui est voué à l'échec. On convient donc que le nom de Paul Doumer sera donné à un paquebot à construire pour les lignes d'Extrême-Orient. Et finalement, le 18 octobre 1932, le conseil d'administration de la CGT retient le nom de Normandie, sur proposition d'Henri Cangardel.

Plusieurs mois de préparation pour un lancement délicat et un spectacle d'exception

Le 29 octobre 1932, une foule immense, sans doute supérieure à 200000 personnes, converge vers Saint-Nazaire pour assister à l'événement. La cale a été libérée des échafaudages qui enserraient le navire, seules demeurent les huit grues. La date n'a pas été choisie au hasard: les 29 et 30 octobre sont deux jours de très grandes marées, qui permettront à pleine mer de bénéficier d'une hauteur d'eau suffisante devant la cale. Mais le créneau est étroit, et en cas d'impossibilité majeure, il faudrait reporter l'opération au printemps 1933. Le mauvais temps règne les jours précédents, mais une embellie s'annonce pour le 29. Le vent est tombé et les conditions météo sont devenues acceptables. Le lancement aura lieu comme prévu ce jour-là à 15 heures, une demi-heure avant l'étale de pleine mer.

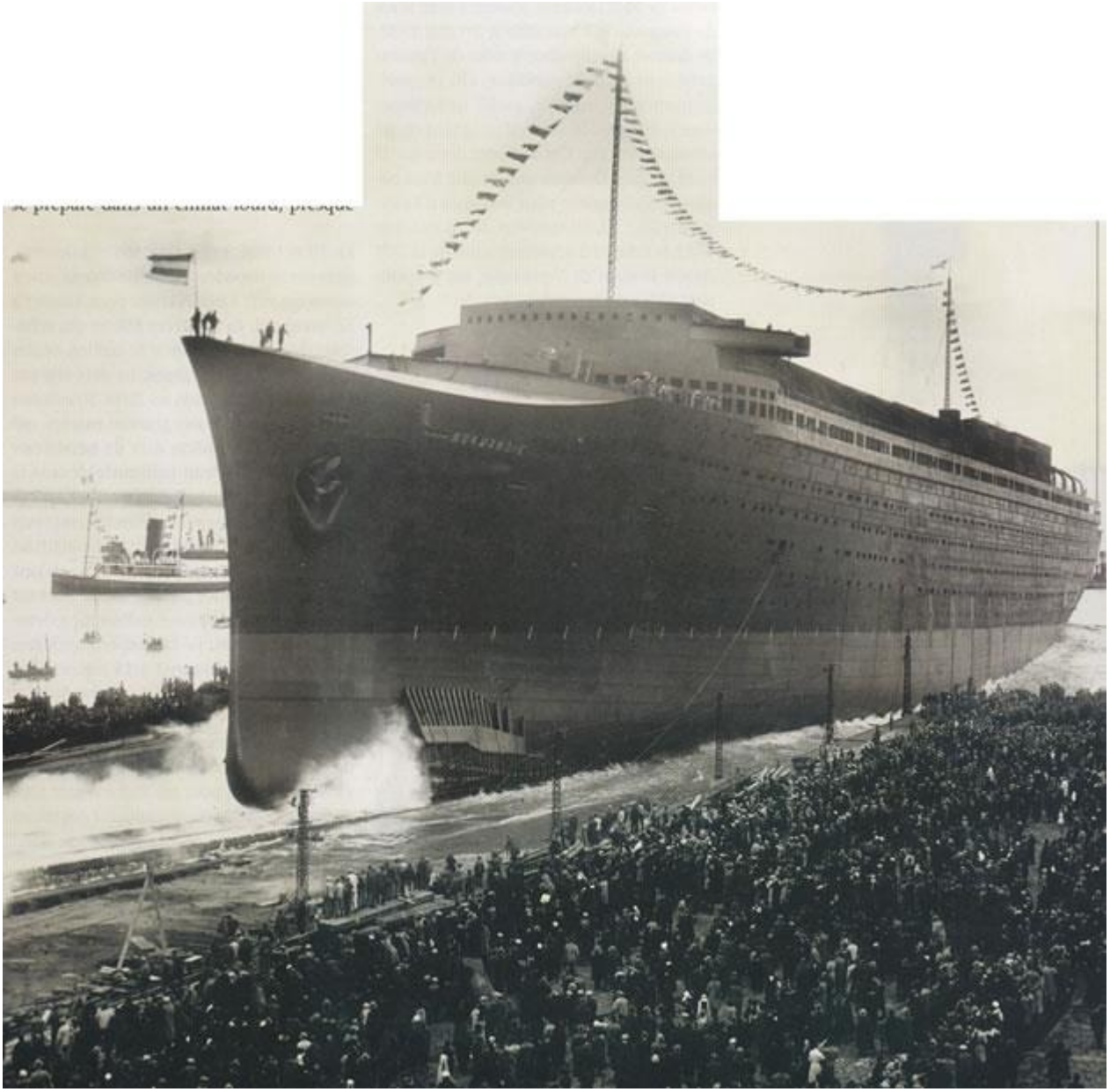
Pour tout lancement, les quelques dizaines de secondes au cours desquelles une coque glisse sur sa cale pour rejoindre la mer sont critiques, la coque étant soumise à des efforts énormes. Posé sur sa cale, le navire est essentiellement soutenu dans sa partie centrale, alors que les extrémités sont comme suspendues. A mesure que le navire glisse et que l'arrière entre dans l'eau et commence à flotter, les charges s'inversent en quelques instants : la coque s'appuie sur ses extrémités tandis que la partie centrale cesse d'être supportée. Ce moment précis où le navire pivote longitudinalement constitue un stress structurel majeur, peut-être le plus important de toute la vie du navire. Durant les mêmes secondes cruciales, la stabilité latérale est considérablement réduite au moment même où la coque et ses superstructures offrent une prise au vent maximale. C'est en partie pour cette raison que la météo constitue une donnée essentielle du lancement. Celui de Normandie est à tous points de vue exceptionnels : avec ses 28100 tonnes, le paquebot géant constitue l'objet le plus grand et le plus lourd jamais mis en mouvement par l'homme.

Les responsables du lancement s'entourent du maximum de précautions ; l'opération se prépare dans un climat lourd, presque malveillant. Les préparatifs techniques ont été engagés dès la fin de l'année 1931 par André Sée, responsable du secteur "coques" au chantier, et son équipe. Il a fallu dessiner et construire le ber, qui devra retenir le navire, associé à deux paires de vérins hydrauliques, dans les instants précédant immédiatement le lancement. Un compte à rebours détaillé de toutes les opérations a été établi. Trois semaines environ avant le jour retenu, commence véritablement la préparation de la cale et du navire, à laquelle plus de cinq cents hommes sont affectés.

La coque repose, depuis le début de la construction, sur des centaines de tins en bois, auxquels il faut substituer progressivement des dispositifs de blocage provisoires — essentiellement des sacs de sable et de sel qui seront retirés ou percés juste avant le lancement. Par ailleurs, la coque est maintenue latéralement par quatre rangées d'accores

en bois, qui seront elles aussi enlevées progressivement. Il faut enfin déposer sur le chemin de lancement des dizaines de tonnes de produits qui contribueront à faire glisser le navire : d'abord un mélange de suif et de paraffine sur 6 millimètres d'épaisseur, puis une couche d'un centimètre de paraffine mêlée à du savon blanc. A l'aube du 29, les équipes des chantiers enlèvent les derniers tins et finissent d'abattre les accores. Alors que la marée commence à monter, le président de la République et son épouse sont accueillis à la gare de Saint-Nazaire.

A 14h 30, Mme Lebrun arrive au pied de l'étroite plate-forme d'où elle va procéder au baptême. Parvenue en haut des marches, elle n'a plus devant et au-dessus d'elle que l'étrave qui s'élève de façon vertigineuse. A ce moment, on abat les dernières accores.



Un instant, Coqueret et Sée hésitent : le temps se dégrade rapidement, le vent de Sud-Ouest s'est renforcé et souffle en rafales. On décide d'accélérer la cérémonie. Après une courte bénédiction, c'est le baptême proprement dit: la marraine coupe le ruban et libère la bouteille de champagne, qui va se fracasser contre la muraille du paquebot. A cet instant,

il n'est plus tenu que par les presses hydrauliques qui enserrent le ber. André Sée donne l'ordre de libérer le navire.

Dans les jours qui précèdent le lancement, des dizaines de tonnes de produits lubrifiants sont déposées sur la cale, pour faciliter le glissement de la coque

Le premier mouvement est imperceptible. Au milieu de bruits divers, de la Marseillaise qui éclate, des grincements des chaînes de retenue qui se tendent, des vivats de la foule, des sirènes des remorqueurs qui attendent le géant, Normandie commence à glisser. Progressivement, tout s'accélère : l'arrière du navire entre dans la Loire à une vitesse déjà élevée, de 12 à 13 noeuds. Sur la rive, un grand nombre de spectateurs voient défiler le paquebot dans toute sa longueur. Rares sont ceux qui s'aperçoivent que se forme une énorme vague, un mascaret qui déferle l'instant d'après sur les imprudents.

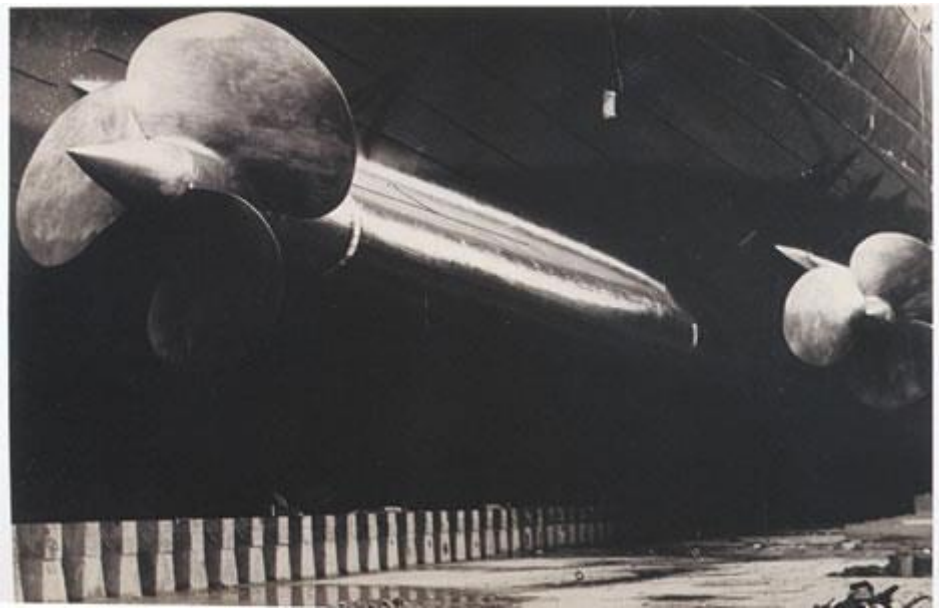
Plus de deux mille ouvriers achèvent le paquebot à flot avant sa mise en service

Techniquement, le lancement peut être considéré comme un succès total. A peine arrêtée, la coque est prise en charge par les remorqueurs. Le convoi s'immobilise dans la forme Joubert, où Normandie reste amarré avant de prendre un poste au quai d'armement. A partir de novembre 1932, les travaux se poursuivent à flot. C'est alors que se produit une de ces catastrophes qui jalonnent l'histoire de la marine marchande française dans l'entre-deux-guerres : l'incendie d'Atlantique, second paquebot de la flotte française après Ile-de-France. Et ce sinistre conduit les dirigeants de la French Line, soumis aux pressions de Jean Marie et de son administration, à revoir les emménagements de Normandie au regard des risques d'incendie.

Le voyage inaugural du paquebot est repoussé d'un an, le temps de repenser le système de lutte anti-incendie, qui jusqu'alors n'avait fait l'objet d'aucune démarche particulière. La French Line veille ainsi à ce que les décorateurs emploient des matériaux plus résistants au feu, même s'il n'est pas question à cette époque de renoncer au bois. Les ACP, avec l'équipe de Paul Romano, imaginent de diviser le paquebot en quatre tranches verticales à l'aide de cloisons métalliques calorifugées. Chacun des ponts bénéficiant du même traitement, Normandie sera finalement divisé en 126 cellules. Les plans sont revus afin qu'aucune coursive ne se termine en cul-de-sac, et qu'un passager cherchant à sortir puisse trouver deux issues au moins dans une tranche donnée. On installe également de puissants moyens de pompage, les robinets pompiers étant disposés de façon à pouvoir attaquer un sinistre à partir de deux points, sans jamais franchir les cloisons coupe-feu. Par ailleurs, les locaux techniques, comme les chaufferies, sont équipés de dispositifs à mousse à grande capacité.

L'idée la plus originale viendra du commandant Pugnet, qui propose la réalisation de petites trappes ovales au plafond de tous les locaux. Occultés par une plaque de verre côté plafond, et par une tape en bronze côté sol, ces "trous Pugnet" doivent permettre d'attaquer un feu depuis le local situé immédiatement au-dessus du foyer. Ce dispositif équipera 1016 locaux du navire. Enfin, un système de détection d'incendie desservant la totalité du paquebot et raccordé à un poste central de surveillance est installé. Une équipe de marins-pompiers veillera en permanence au bon fonctionnement de ces moyens de lutte contre le feu.

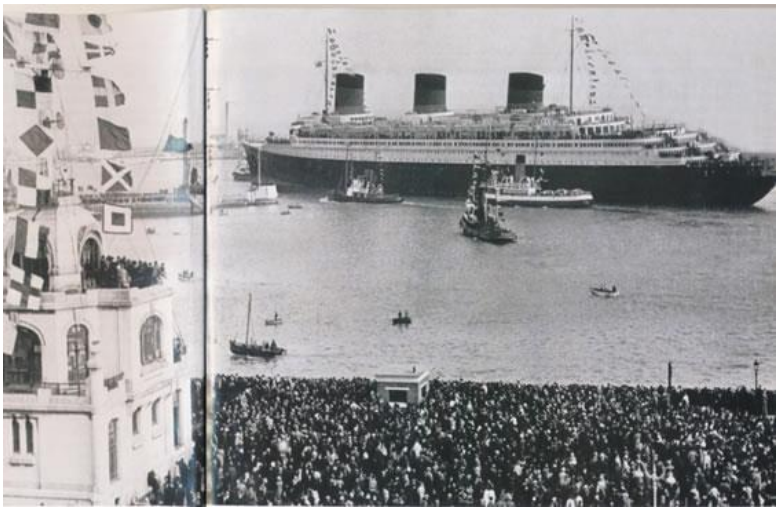
Alors que le navire est amarré au quai d'armement, les grues déposent à bord les moteurs de propulsion et les turbines. En février 1934, Normandie, resté immobile depuis son lancement quinze mois plus tôt, est mis au sec dans la forme Joubert, où le ber est démonté et les oeuvres vives repeintes. Pendant l'été 1934, la silhouette finale du paquebot commence à se dessiner, avec la pose des mâts et surtout des cheminées. Ces dernières sont encore entourées de leurs échafaudages lorsque débute la mise au point de l'appareil évaporatoire et propulsif, avec l'allumage des premières chaudières, en octobre 1934. Forte des progrès de la construction, la CGT peut annoncer que Normandie effectuera son voyage inaugural à la fin mai 1935.



Plus de 2000 ouvriers oeuvrent nuit et jour, pour finir le paquebot. Pourtant, malgré l'embellie économique, perceptible dès 1934, la tension sociale reste forte. Le 16 février 1935, Saint-Nazaire est le théâtre d'une manifestation violente des ouvriers du chantier, qui craignent que le départ du navire ne donne lieu à des licenciements massifs et à une longue période de chômage. Le 3 mars 1935, c'est la grève. En accordant treize jours plus tard des augmentations de salaire exceptionnelles, assorties d'une prime de 5 % liée à la fin de la construction, la direction des ACP obtient la reprise du travail. Mais la date de départ initiale, fixée au 20 avril, ne peut plus être tenue. Normandie doit patienter une quinzaine de jours pour faire ses premiers essais à la mer. Fin mars, les remorqueurs le prennent en charge et le guident jusqu'en forme Joubert.

A deux mois du voyage inaugural, le paquebot apparaît pour l'essentiel achevé. Mais les grandes baies vitrées du grill-room restent à installer, et les bossoirs demeurent libres de toute embarcation de sauvetage. En cale sèche, alors que se poursuit l'aménagement intérieur, la carène bénéficie d'un ultime nettoyage avant d'être repeinte. Normandie y reçoit son premier jeu d'hélices. D'un diamètre extérieur de 4,78 mètres, d'un pas moyen de 5,23 mètres et d'un poids de 23,27 tonnes après usinage, ces hélices à trois pales en bronze à haute résistance sont le fruit d'un programme de recherche très poussé, qui ne s'est achevé qu'au second semestre 1934. Ces hélices vont pourtant donner lieu à bien des soucis.

Appareillage de Saint-Nazaire pour des essais de vitesse et d'endurance très prometteurs



Dimanche 5 mai 1935, plus de cinquante et un mois après la mise sur cale, le paquebot quitte enfin Saint-Nazaire, sous grand pavois. Il a fallu, pour qu'il puisse sortir de l'estuaire de la Loire, entreprendre une nouvelle série de travaux et draguer le chenal de la Barre des Charpentiers, en portant sa cote à 8 mètres au-dessous du zéro des cartes marines. Compte tenu de la longueur extraordinaire du navire, il a par ailleurs été indispensable de porter à 2000 mètres le rayon de la courbe du chenal de Bonne-Anse.

La sortie de Saint-Nazaire reste extrêmement délicate. A l'ouvert de l'estuaire, sous un ciel d'orage, un grain s'abat sur Normandie, la visibilité se réduit, la pluie se met à tomber. Mais à ce moment, après une très courte navigation, les deux commandants, René Pugnet et Pierre Thoreux, savent déjà que leur navire dispose de capacités manoeuvrières peu communes. Les essais à la mer durent moins d'une semaine, du 5 au 11 mai 1935. Il y a beaucoup de monde à bord, y compris des ouvriers qui achèvent dans l'urgence les emménagements; ils vont même participer aux premiers voyages.

Au cours de cette première sortie, il n'est pas question de battre des records de vitesse. Normandie gagne la base des îles Glénan, où se déroulent les mesures de performances. Il y effectue, les 6 et 7 mai, une série de passages à grande vitesse et atteint au cours de ces essais préliminaires la vitesse de 32,125 noeuds, pratiquement 60 kilomètres à l'heure! Les essais sont aussi l'occasion d'évaluer l'ensemble du comportement du navire, en particulier sa manoeuvrabilité et sa stabilité. Les objectifs de vitesse sont largement atteints. Le sillage témoigne de la puissance développée par les machines. Mais pour le reste, peu ou pas de vague d'étrave, le passage du géant dans la mer apparaît remarquablement discret. Il suffira par ailleurs de moins d'un mille, en battant en arrière à pleine puissance, pour stopper Normandie lancé à 30 noeuds.

Ces premiers essais ne révèlent qu'un problème sérieux: à grande vitesse, le tiers arrière du bâtiment vibre beaucoup. Ce dysfonctionnement, susceptible de compromettre la réputation et le succès commercial du paquebot, apparaît sans solution immédiate. Il faudra que constructeur et armateur y consacrent de nouvelles études, avant que des solutions ne se dessinent. Le lundi 8 mai, au troisième jour des essais, Normandie met le cap sur la rade de Brest, et y mouille pour la nuit.

Le lendemain, à 9 heures, le grand paquebot appareille pour la seconde partie des essais qui, avant livraison, doivent valider les performances en termes de vitesse et de consommation. Les essais de vitesse consistent en une marche de huit heures à pleine puissance. Avec un déplacement légèrement supérieur à 63000 tonnes, et une puissance moyenne de 161 868 chevaux pour 225 tours/minute aux hélices, Normandie maintient une vitesse de 30,995 noeuds. La consommation au mille dépasse tout de même 1600 kilos, c'est-à-dire près de 50 tonnes de mazout par heure. Les essais d'endurance sont menés à une allure qui correspond sensiblement à la vitesse commerciale du navire sur l'Atlantique Nord: 28,71 noeuds pour une puissance moyenne de 122750 chevaux et 208 tours/minute aux hélices. A cette vitesse, Normandie consomme 1325 kilos au mille, soit 38 tonnes par heure. Autant dire que tout supplément de vitesse coûtera très cher, et que la compagnie devra payer au prix fort les tentatives de conquête du Ruban bleu!

Les essais s'achèvent, et le samedi 11 mai, vers 19 heures, Normandie se présente devant le port du Havre, qui a dû, comme Saint-Nazaire, engager des travaux importants pour l'accueillir. La population est massée le long des quais et des jetées. Le soir, immobile le long du quai Johannès-Couvert, le paquebot attend l'épreuve de l'Atlantique Nord. Ce sera dans dix-huit jours. Mais avant, la France et le monde vont découvrir le plus grand navire de la planète, le plus beau, le plus luxueux, le plus rapide et, de loin, le plus coûteux!
Chasse-maréé 183

Inséré le 05/02/02 NIEUWS NOUVELLES Enlevé le 05/03/15

Post-Panamax Bulk Carrier Rides Air Bubble Blanket to Reduce Emissions

Mitsubishi Heavy Industries has announced the delivery of the first of three post-panamax bulk carriers to achieve energy efficient operations through the use of an air bubble lubrication system.The recently delivered bulk carrier, MV Harvest Frost, is the first vessel of its size to use MHI's proprietary Mitsubishi Air Lubrication System (MALS), which reduces the drag between the vessel hull and seawater by blowing air bubbles produced at the vessel bottom. MHI says that use of the system has been proven to help Harvest Frost achieve a 27% reduction in CO2 emissions compared to conventional bulk carriers, exceeding the target figure of 25%. Harvest Frost was delivered to the U.S. company ADM Harvest Shipping, part of the Archer Daniels Midland Company, following its completion at MHI licensing partner Oshima Shipbuilding Co., Ltd.'s shipyard in Nagasaki, Japan. The vessel was constructed with MHI providing the conceptual design and various green technologies, including the MALS. The MALS system uses special blowers to blow air from the vessel's bottom, producing small air bubbles that cover the bottom of the hull like an "air-carpet," reducing friction between the hull and seawater during navigation. The system was developed by MHI with support from ClassNK, and has already been adopted in module carriers, ferries and other ships constructed by MHI, the company says. Harvest Frost also features a new bow shape designed to reduce resistance, while shallow draught facilities help the MALS achieve its target energy savings. For propulsion, an innovative system is adopted that effectively converts the main engine power into propulsion power by positioning fins forward of the propellers and placing special grooves in the propeller boss cap, according to MHI. ClassNK says that it has completed the EEDI appraisal of the vessel, making it the first EEDI (Energy Efficiency Design Index) certification for a vessel fitted with the MALS system.Delivery of two other ships in the series is scheduled for completion by mid-2015. The carriers measure 237 meters in length, 40m in width, and 12.5m in designed draught: deadweight tonnage (DWT) is approximately 95,000 tons. Source: Mitsubishi Heavy Industries

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Inséré le 07/02/02 DOSSIER Enlevé le 07/03/15

The MV Salamis and the State of Disembarkation at International Law: The Undefinable Goal

Introduction: The Relevant Facts

On August 4, 2013, a Liberian-registered tanker, the MV Salamis, was directed by the Maritime Rescue Coordination Centre (MRCC) Rome to rescue 102 African migrants from a boat in distress off the Libyan coast. The rescuees included four pregnant women, a five-month old baby, and an injured woman. MRCC Rome then instructed the shipmaster to return to Khoms in Libya which it considered to be the nearest port of safety. The

shipmaster, however, proceeded on the planned route towards Malta in order to disembark the rescued migrants there. Malta denied entry to the vessel. Maltese armed forces distributed food, water, and medical aid to the migrants on board, determining that evacuations were unnecessary. An impasse followed as Malta refused to allow disembarkation, claiming that the shipmaster had ignored calls to turn back to Libya. On August 7th, Italy agreed to allow the migrants to disembark in Syracuse, ending the crisis on the Salamis. Yet legal issues regarding the disembarkation of migrants rescued on the high seas remain a point of contention between States, in particular due to the lack of clarity under international law governing search and rescue at sea.

Outline of the Legal Regime

The Meaning of Distress

In order to necessitate a rescue, the vessel in question must be in a state of distress.[1] The International Convention on Maritime Search and Rescue (SAR Convention),[2] describes distress as a situation wherein there is a reasonable certainty that a vessel or a person is threatened by grave and imminent danger and requires immediate assistance. This definition arguably corresponds to the definition of distress under customary international law.

In its 2012 Report, the Parliamentary Committee of the Council of Europe (PACE) contemplated indicators of distress. That report found that whether a boat engine was operative or not was not necessarily determinative of the state of distress. Other factors -- including how crowded a boat is, how great the distance from shore, or how many people on board showed clear signs of distress -- should be taken into account in the determination of whether or not a vessel is in distress.[3] At no relevant time was it claimed that the Salamis was in distress after rescuing the migrants.

SAR Obligations and Disembarkation

The obligation to rescue those in distress at sea is enshrined inter alia in the 1982 Law of the Sea Convention (LOSC)[4] and may be regarded as part of customary international law, binding all States.[5] Aside from Article 98(1), however, there is a noticeable dearth of regulation in the LOSC relating to search and rescue operations. Further regulation has been fleshed out in two International Maritime Organization (IMO) Conventions, namely the SAR Convention and the International Convention on the Safety of Life at Sea (SOLAS).[6]

International law does not impose an unequivocal duty on any State to accept disembarkation of rescued persons on its territory. The basic premise, following the Nicaragua judgment, is that a coastal State may regulate access to its ports by virtue of its sovereignty.[7] This premise is limited, however, by vessels in distress requiring entry into a coastal state port.[8]

According SAR Convention, amended in 2004, a State SAR obligations include the primary responsibility to coordinate all search and rescue operations within its SAR zone such that rescuees are disembarked and are taken to a place of safety. It must also ensure that all rescued persons are disembarked at a place of safety within a reasonable time, and must release shipmasters who have rescued persons in distress at sea from their obligations in order to ensure minimum deviation from the ship intended voyage.[9]

While Italy has accepted the 2004 amendments, Malta has formally objected to them. Malta has also indicated that it does not consider itself bound by the Circular of the IMOs Facilitation Committee (FAL) of January 2009 entitled Principles Relating to Administrative Procedures for Disembarking Persons Rescued at Sea.[10] Instead, Malta advocates the next port of call rule, mandating disembarkation at the nearest safe port to

the site of the rescue, which in the Maltese SAR area[11] is often a port in Italy. Italy, on the other hand, reads the 2004 amendments as requiring the State in whose SAR area the rescue is effected to disembark the rescues on its territory.

However, the SAR Convention only lays down an obligation of coordination and cooperation and does not necessarily entail an explicit duty to allow disembarkation in a particular port.[12]

The Place of Safety

The 2004 Guidelines define a place of safety as the location where the rescue operation terminates. Here, the rescuees lives must no longer be under threat and their basic human needs (such as those relating to food, shelter, and medical exigencies) may be met.[13]

That the â€ œplace of safetyâ€ □ also includes factors other than immediate physical needs and extends to protection of human rights is evident both in the Guidelines on the Treatment of Persons Rescued at Sea (see paragraphs 5.1.6 and 6.17, noted below) and in the PACE Resolution 1821 (2011) which asserts that such place of safety must necessarily entail respect for fundamental rights and not only physical protection focused on the immediate alleviation of distress.[14]

Non-Refoulement

Article 33 of the 1951 Refugee Convention[15] enunciates the principle of non-refoulement.[16] While the Refugee Convention does not grant the right to asylum nor does it oblige a State to hear and process asylum claims, it does mandate that no asylum seekers be sent back to a place of persecution or to a non-party State to the Refugee Convention. The obligation is not limited territorially but operates wherever a State acts even on the high seas and indeed, wherever a State exercises effective control over a vessel.[17]

This was reaffirmed by the Grand Chamber of the European Court of Human Rights in Hirsi Jamaa and Others v. Italy,[18] wherein it was unequivocally stated that, post-rescue, people are not to be pushed back to a country where they risk being treated in violation of Article 3 of the European Convention on Human Rights which protects against inhuman and degrading treatment or punishment. Through this judgment, the obligation of non-refoulement formally entered the realm of human rights law, and bolstered its potential status as a jus cogens norm.[19]

What of Responsibility?

In the instance of the MV Salamis, Italy, as the State coordinating the rescue, directed the Master of the rescuing vessel to return to the Libyan port from which it had departed. Similarly, Malta took the position that the Master had breached international obligations by not seeking to disembark the rescuees at the closest safe port.[20] However, it is submitted that these directions themselves breached international law since a State cannot cause the return of migrants to a place which does not constitute a place of safety. As was highlighted by, inter alia, the Grand Chamber of the European Court of Human Rights in Hirsi Jamaa v. Italy, Libya does not constitute a place of safety.[21]

Return by official vessels or aircraft, or direction to private vessels to return individuals to a potential place of persecution, amounts to a push-back operation which violates international legal norms.[22] Indeed, directing the Master of a rescuing vessel to return to Libya post-rescue would be tantamount to a de facto push-back. Both Italy and Malta gave such instruction.

Aside from its insistence that the Master return the rescued individuals to Libya, Malta responsibility to disembark the migrants, if any, would exist if it were under a legal obligation to admit the Salamis for disembarkation of the rescuees on its

territory.[23] However, as the Salamis was not, at the relevant time, in a state of distress, Malta was not legally obliged to permit entry to port and subsequent disembarkation.

Malta could, however, arguably be held responsible for delaying the conclusion of the rescue operation by denying entry into port by permitting a delay in reaching a place of safety. A counter-argument may hold that since this obligation is framed in Article 3.1.9 of the Annex to the SAR Convention, which Malta is not party to, the State is not bound by this provision. It is submitted that this would be incorrect because the underlying purpose of the SAR Convention is rescue and delivery to a place of safety; such core obligations of a fundamental character cannot be evaded.

Italy initial position regarding responsibility was much the same as Malta, insofar as directing the Master to return the rescuees to Libya and postponing the termination of the rescue operation. That it bore the primary responsibility in coordinating the rescue is clear and borne out by the paragraph 6.7 of the Guidelines.[24] Italy has consistently interpreted the 2004 SAR amendments to obligate the State in whose SAR area the rescue is conducted to allow disembarkation of rescuees. On this reasoning therefore, Italy was obliged to disembark the individuals which the Salamis had rescued. Contrary to previous practice however, Italy advocated in the case of the Salamis, that the rescuees should be disembarked at the closest port.

This incident also contemplates the prospect of a responsibility vacuum: the responsible SAR authority, Libya, did not act. The current SAR regime leaves unresolved a situation where the SAR State does not act and remains unresponsive to distress calls, thereby failing to fulfill its duty to coordinate search and rescue operations. The only regulation that exists is the general duty at international law obliging all States to cooperate and assist in a rescue operation, regardless of whether they bear the primary responsibility as SAR State, or whether they bear the general obligation of Article 98(2) of the LOSC. Such regulation may not be effective enough especially when one considers the tragic consequences that may occur in the absence of timely assistance.[25]

The Default State of Disembarkation

The main lacuna in the current SAR regime is a lack of specification of a default State of disembarkation or a mechanism for effectively determining such a State. The Salamis incident has highlighted this to no uncertain degree. While it is clear that priority must at all times be given to disembarkation, the SAR Convention regime does not effectively designate such a State. Aside from the unacceptable consequences of delays in disembarkation, this uncertainty has major ramifications on the search and rescue regime and risks jeopardizing the entire system.

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[1] See, e.g., Kate A. Hoff (U.S.A.) v. United Mexican States 4 R. Intl Arb. Awards 444 (1929), http://legal.un.org/riaa/cases/vol_IV/444-449.pdf; The Eleanor (1809) 165 Eng. Rep. 1058, 135.

[2] International Convention on Maritime Search and Rescue Annex, ch. 1 Â¶1.1.13, Apr. 27, 1979, T.I.A.S. No. 11,093, 1405 U.N.T.S. 97 [hereinafter SAR Convention].

[3] Eur. Parl. Ass., Lives lost in the Mediterranean Sea: Who is Responsible? Â¶ 95, Doc. No. 12895 (2012), available at http://www.unhcr.org/refworld/docid/4f7be86b2.html.

[4] Convention on the Law of the Sea [LOSC], Dec. 10, 1982, 21 I.L.M. 1261, 1833 U.N.T.S. 3.

[5] Article 98(1) of the LOSC imposes a duty on shipmasters to render assistance to those in distress at sea, with the only permissible exception being that he must be able to conduct such rescue operation without â€ œserious danger to the ship, the crew or the passengers Article 98(2) of the LOSC imposes the obligation on every coastal State to establish an adequate and effective search and rescue service.

[6] Only since 2004 has the act of disembarkation been expressly stated to be part of the rescue operation, following amendments to the SAR Convention, which came into force on July 1, 2006. See SAR Convention, supra note 2, at Annex Â¶3.1.6.4 [The coordinating State must] make the necessary arrangements in cooperation with other RCCs to identify the most appropriate place(s) for disembarking persons found in distress at sea).

[7] Military and Paramilitary Activities in and against Nicaragua (Nicar. v U.S.), 1986 I.C.J. 14, 212 13 (June 27).

[8] Situations have arisen where, notwithstanding a distress situation, the port State raises the question of good order and peace of the port. For example, Italy has taken action regarding its declaration in 2011, regarding Lampedusa as an unsafe port.

[9] SAR Convention, supra note 2, at Annex Â¶ 3.1.9; see also International Convention on the Safety of Life at Sea [SOLAS], Nov. 1, 1974, 32 U.S.T. 47, 1184 U.N.T.S. 278, available at https://treaties.un.org/doc/Publication/UNTS/Volume%201184/volume-1184-I-18961-English.pdf (imposing the same obligation on Contracting Governments).

[10] Intl Maritime Org. [IMO], Principles Relating to Administrative Procedures for Disembarking Persons Rescued at Sea, 2.3, Doc. No. FAL.3/Circ.194 (2009), available at http://www.imo.org/OurWork/Facilitation/docs/FAL%20related%20nonmandatory%20instruments/FAL.3- circ.194.pdf. An IMO Circular is a document which, although non-binding, is influential on the State parties.

[11] A SAR region is an area of defined dimensions associated with a rescue co-ordination centre within which search and rescue services are provided. SAR Convention, supra note 2, at Annex 1.3.4. Malta SAR Area spans over 250,000 square kilometres, spanning from Tunisia to Greece.

[12] See Maritime Safety Committee, Guidelines on the Treatment of Persons Rescued at Sea, 2.5, Res. No. MSC.167(78) (2004), available at http://www.imo.org/OurWork/Facilitation/IllegalMigrants/Documents/MSC.167(78).pdf. This leads to conflicting positions and regimes, such as that arising with the M/V Pinar-E which was rescued off Lampedusa in April 2009.

[13] See id. 6.12.14.

[14] Eur. Parl. Ass., Res. 1821 9.5 (2011), available at http://assembly.coe.int/Main.asp?link=/Documents/AdoptedText/ta11/ERES1821.htm; see also Commission Proposal for a Regulation of the European Parliament and of the Council Establishing Rules for the Surveillance of the External Sea Borders in the Context of Operational Cooperation Coordinated by the European Agency for the Management of Operational Cooperation at the External Borders of the Members States of the European Union, COM (2013) 197 final (Apr. 12, 2013) (replacing Council Decision 2010/262/EU, which provides for the protection of their fundamental human rights).

[15] Convention Relating to the Status of Refugees, July 28, 1951, 189 U.N.T.S. 137.

[16] Article 33 relates to the prohibition of the expulsion or return (â€ œrefoulerâ€ □) of a refugee or asylum-seeker â€ œin any manner whatsoever to the frontiers of territories where his life of freedom would be threatened on account of his race, religion, nationality, membership of a particular social group or political opinion.

[17] The non-refoulement principle has its origins in international refugee law but has a core place in international human rights as well, with a wider application in this latter sphere.

[18] Hirsi Jamaa and Others v. Italy, App. No. 27765/09, Eur. Ct. H. R. (2012), http://hudoc.echr.coe.int/sites/eng/pages/search.aspx?i=001-109231.

[19] Id. at 65 (Albuquerque, J., concurring).

[20] See Update 8: Government Requests Ship Master to Return to Rescue Location, Times of Malta (Aug. 5, 2013), http://www.timesofmalta.com/articles/view/20130805/local/tanker-carrying-migrants.480832 (letter the Maltese Attorney General letter to the Salamis via its Agent).

[21] See also Abdi Ahmen and Others v. Malta, App No. 43985/13, Eur. Ct. H.R. (2013), http://hudoc.echr.coe.int/sites/eng/pages/search.aspx?i=001-127198.

[22] Push-back operations at sea refer to the actions whereby State vessels force a return of vessels carrying migrants to the place from which they departed, often, a place of persecution. These actions are prohibited in that they constitute collective expulsions and risk a breach of the non-refoulement principle. See, e.g., Submission by the Office of the United Nations High Commissioner for Refugees in the Case of Hirsi and Others v. Italy (Mar. 29, 2011), http://www.refworld.org/cgi-bin/texis/vtx/rwmain?docid=4d92d2c22.

[23] A reading of the relevant official statements would prima facie indicate that Malta did indeed have such responsibility. See, e.g., Press Release, European Commission, Commissioner Cecilia MalmstrÃ¶m Urges the Maltese Authorities to Take Action (Aug. 6, 2013), http://europa.eu/rapid/press-release_MEMO-13-739_en.htm#PR_metaPressRelease_bottom; Press Release, European Council on Refugees and Exiles, ECRE Calls for the Safe Disembarkation of Persons on Board MV Salamis in Malta (Aug. 6, 2013) http://www.ecre.org/index.php?option=com_downloads&id=789; Press Release, Amnesty International, Migrants Rescued at Sea After Fleeing Libya Must be Allowed to Disembark in Malta (Aug. 6, 2013), http://www.amnesty.org/en/news/malta-boat-2013-08-06.

[24] This provision explains that the RCC first contacted is â€œresponsible for co-ordinating the case until the responsible RCC or other competent authority assumes responsibility

[25] Reminiscent of the Left-to-Die boat of seventy-two persons leaving Libya on March 26, 2011 and drifting back on to Libyan shores fifteen days later with only nine survivors.

Inséré le 09/02/02 BOEKEN LIVRES Enlevé le 09/03/15

"Geschiedenis van de MCC"

B O E K B E S P R E K I N G door : Frank NEYTS

Bij Walburg Pers verscheen onlangs '**Geschiedenis van de MCC'** geschreven door Ruud Paesie. De in 1720 opgerichte 'Middelburgse Commercie Compagnie' (MCC) behoort tot de kleinere Nederlandse compagnieën uit de achttiende en negentiende eeuw en kreeg vooral bekendheid door de trans-Atlantische slavenhandel. De onderneming omvatte echter veel meer activiteiten. Naast slavenhandel bedreef de compagnie walvis- en kaapvaart en rustte zij schepen uit voor de Europese handel en de handelsvaart op West-Afrika en Amerika. Ze heeft zelfs een kostbare Zuidzee-expeditie georganiseerd.

Na de opheffing van de grote handelscompagnieën VOC en WIC wist de MCC zich als enige te handhaven. Na 1800 richtte de MCC zich voornamelijk op scheepsbouw en werden op haar werven in opdracht van derden naast fregatten, barken en schoeners ook stoomschepen gebouwd. De MCC is pas in 1889 geliquideerd. In 'Geschiedenis van de MCC' belicht Ruud Paesie alle facetten van deze unieke onderneming. Naast literatuuronderzoek heeft de auteur langdurig en diepgravend archiefonderzoek gedaan naar met name de geschiedenis van de MCC in de negentiende eeuw. Dit onderzoek heeft nieuwe nog niet eerder gepubliceerde inzichten opgeleverd. 'Geschiedenis van de MCC' is een standaardwerk over het bestaan van deze handelsorganisatie. Samen met '**Geschiedenis van de VOC'** en '**Geschiedenis van de WIC'** draagt dit boek bij aan een completer beeld over het ontstaan van de Nederlandse koloniale geschiedenis. "**Geschiedenis van de MCC**" (ISBN 978-90-5730-931-1) telt 208 pagina's, werd als hardback uitgegeven, en kost 29.95 euro. Aankopen kan via de boekhandel of rechtstreeks bij Uitgeversmaatschappij Walburg Pers, Postbus 4159, 7200BD Zutphen. Tel. +32(0)575.510522, Fax +31(0)575.542289. . In België wordt het boek verdeeld door Agora Uitgeverscentrum, Aalst/Erembodegem. Tel. 053/76.72.26, Fax 053/78.26.91, E-mail: @agorabooks.com

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Inséré le 09/02/02 NIEUWS NOUVELLES Enlevé le 09/03/15

Euronav $185m New York IPO shows 'timing is everything'

As widely anticipated, Euronav has come to market with its offering on the New York Stock Exchange (NYSE) hoping to raise as much as $201.6m ($185m net) figuring an overallotment allowance granted to the underwriters. Financial pundits say that "timing is everything" and sometimes, it pays to wait as Euronav's original NYSE filings, in early September 2014 had the company raising a far smaller $100m; at the time.

The offering was scrubbed as the equity markets swooned. Fast forward four months now, to a booming tanker market and a still strong equity market, albeit slightly rattled by falling oil prices, and potential demand for the shares has doubled. Anticipated pricing, estimated in the latest filing to be just under US $12 per share, is tied to the value of shares trading on Euronext Brussels, where Euronav has been listed since 2004. In conjunction with the NYSE offering, shares outstanding in Belgium will be exchanged with the newly issued shares. After the dust settles, and assuming that the underwriters take the additional shares, the Livanos family will own 12% of outstanding shares, with the Saverys family owning a 10.7% stake.

One of the heavyweights in the business, Euronav controls 52 vessels with an overall capacity of roughly 13m dwt, consisting of 27 VLCC/ULCCs, 23 suezmaxes and two FSOs - both jointly owned with OSG, and on charter to Maersk Oil. Two additional vessels, part of the quartet purchased from Maersk last summer following up on a 15 ship deal done earlier in 2014, will be delivered into the fleet in the first half of 2015.

In its latest filing, Euronav suggests that proceeds might be used towards acquiring additional vessels, or alternatively for repaying debt. Euronav prides itself on its excellent access to financial markets, citing $3.8bn raised since 2008. Last Autumn, the company entered into a $340m senior secured credit facility (seven-year term, LIBOR plus 2.25%) to partially finance the purchase price of the Maersk VLCCs and to repay a credit facility dating back to 2009.

In his public appearances, company CEO Paddy Rodgers has been a major proponent of measures to reduce fragmentation in the large tanker sector, an ongoing trend where owners are attempting to shift market power in their direction.

The prospectus details VLCC Chartering Inc, the recently announced alliance between the Tankers International pool (dominated by Euronav's VLCCs) and Frontline Management. The prospectus offers a glimpse deep into management's spot market strategy, saying: "Our strategy is to maximize our exposure to the spot market, which has historically been volatile, but which we believe has delivered the highest returns on average, while securing stable cash flow in anticipation of decreasing markets by chartering some of our vessels on fixed-rate time charter," adding that: "we seek to leverage our participation in the TI Pool to benefit from the economies of scale and greater vessel utilisation that the TI Pool can generate. We believe that the revenues that our vessels achieve in the TI Pool will exceed the rate we would otherwise achieve by operating these vessels outside of the TI Pool." TCE's for Euronav's VLCCs were just over $25,000/day for the first nine months of 2014.

The prospectus also provides a number of other insights into Euronav's business, for example its vital services provides to oil major Total- with a refinery in Quebec. As North America's energy landscape shifts, exports of crude oil (and products) from Canada are likely to increase.

One interesting hint of future activities concerns oil storage- a major driver of the market for large tankers in recent weeks. The company notes that: "We currently deploy our two FSOs as floating storage units under service contracts with Maersk Oil in the offshore services sector. As our tanker vessels age, we may seek to extend their useful lives by employing such vessels on long-term offshore projects at rates higher than may otherwise be achieved in the time charter market."

Source : Seatrade

Inséré le 11/02/02 DOSSIER Enlevé le 11/03/15

Large Scale Rescue Operations at Sea

Guidance on Ensuring the Safety and Security of Seafarers and Rescued Persons

1. Introduction

This ICS Guidance has been developed in response to the growing number of migrants and refugees being rescued by merchant ships in the Mediterranean. In 2014, this involved the rescue at sea of tens of thousands of people, sometimes as many as 200 persons or more during a single operation. Notwithstanding the immediate impetus for this advice, it is equally applicable in any part of the world where a rescue operation involving large numbers of people at sea may be required.

The rescue of persons in distress is a humanitarian obligation which the shipping industry has always accepted without question. But the attempt by thousands of migrants and refugees to travel to Europe, in craft which are often completely unseaworthy, is a new and different phenomenon to which the entire international community needs to develop solutions urgently. In the meantime, the rescue at sea of such people, should their craft get into distress or their rescue be requested by a Rescue Coordination Centre (RCC), involves very different challenges to conventional rescue operations.

This Guidance is intended to supplement Rescue at Sea: A Guide to Principles and Practice as Applied to Refugees and Migrants updated in 2014 by the United Nations High

Commissioner for Refugees (UNHCR), in co-operation with the International Maritime Organization (IMO) and ICS.

The humanitarian obligation, placed on nation States and seafarers, to render assistance to persons in distress at sea i enshrined in international maritime law.

Specific provisions can be found in:

- United Nations Convention on the Law of the Sea (UNCLOS), 1982, Article 98(1) & (2);
- IMO International Convention for Safety of Life at Sea (SOLAS) 1974 as amended, Chapter V, Regulations 7 and 33; and
- IMO International Convention on Maritime Search and Rescue (SAR), 1979 as amended.

The fundamental principle is that nation States and ships have an obligation to assist persons in distress at sea, regardless of their nationality, status or situation. The practicalities of meeting the obligations under these international Conventions are described in the International Aeronautical and Maritime SAR Manual (IAMSAR) Volumes I-III.1 The matters described in IAMSAR Volume III are of particular relevance to shipping companies and ship's Masters.

The ICS guidance Recovery of Persons from the Water provides complementary guidance on developing ship specific plans and procedures (as required by new SOLAS Regulation III/17-1) and can be downloaded free of charge via the ICS website.

Important Note

Even if so requested by an RCC or other shore officials, the Master has no authority, obligation or responsibility to become involved in listening to, acting upon or communicating information concerning the legal status of rescued persons or applications for asylum. The sole responsibility of the Master and the crew is to maintain the safety and, as far as practicable, the health and wellbeing of rescued persons, and cooperate in their safe disembarkation.

2. Purpose and Scope

This booklet provides guidance for shipping companies and Masters to ensure the safety and security of crews who may be involved in rescuing large numbers of persons at sea, as well as the people they rescue.

ICS recognises that for many companies and ships, this Guidance may complement existing practices and procedures. For others this Guidance may assist with the development of company practices and procedures to support Masters and crews that may have to participate in large scale rescue operations.

Appendix A provides a Checklist for company preparations to support Masters. Appendix B provides a Checklist for Masters involved in rescue operations.

3. Preparations

The need to rescue multiple persons can make the operation particularly challenging. Ships should therefore be prepared for this eventuality. In making advance preparations, experience has shown that effective procedures, supported by regular drills, will prepare Masters and crews to respond safely and to manage successfully rescue operations at sea.

3.1 Plans and Procedures

All ships are required under SOLAS Regulation III/17-1 to have plans and procedures in place to recover casualties from the sea. However, companies with ships operating in areas where the probability of being involved in a large scale rescue may be higher than normal are particularly advised to develop additional plans and procedures for their ships.

These plans should provide procedures for:

- Rescuing large numbers of personnel directly from the sea or from other craft;
- Accommodating and managing rescued persons on board;
- Managing the security of the ship with rescued persons on board; and
- Post disembarkation actions.

Experience has shown that each rescue will have unique features, and even well made plans will need to be adapted to fit the situation. Masters should be given the flexibility to assess risks and implement changes as required.

3.2 Training and Familiarisation

The STCW Convention2 stipulates requirements for seafarer training related to Search and Rescue (SAR) operations. The company should ensure that individual seafarers, on being assigned to any of its ships, are familiarised with their specific duties and with all ship arrangements, installations, equipment, procedures and ship characteristics that are relevant to their general and emergency duties.

3.3 Additional Stores

The ship's provisions and equipment, including Personal Protective Equipment (PPE), should be sufficient to support small or even medium scale rescue activities. However, in order to support the potential for a large scale rescue operation, and to avoid excessively depleting provision and equipment levels required by ship's personnel for the safe operation of the vessel, it is recommended that consideration be given to providing the following additional stores and equipment:

General equipment, including:

- Food and drinking water;
- Survival bags;
- Plastic sheeting;
- First aid and medical supplies; and
- Chlorine based cleaning products and equipment.
- PPE (for crew, in order to protect against potential risks to health) including:

- Additional life jackets and flotation devices for crew (in case of infection or contamination);
- Anti-bacterial gel/sanitiser in individual packages, and dispensers;
- Fluid-resistant, impermeable long sleeve coveralls or coats with long sleeves;
- Gloves (both cotton/fabric and latex or nitrile);
- Respiratory protection; and
- Eye protection.

4. Conducting a Large Scale Rescue Operation

In situations where a decision is taken to stand by a craft rather than to conduct a rescue or recovery operation, the initial decision should be reviewed in light of changing circumstances and conditions.

A review of circumstances should include:

- The immediacy of the threat to life of the people on the vessel or craft;
- The risks posed to ship, crew and people to be rescued during a large scale rescue operation;
- The preparedness of the ship for embarkation; and
- The proximity of Search and Rescue (SAR) services to the situation.

4.1 Rescue Planning

The practicalities of conducting rescue at sea are covered in detail in IAMSAR Volume III and should also be addressed in ship specific plans and procedures for the recovery of persons from the water. Company risk assessment techniques should be used when considering adapting plans and procedures for the particular situation facing the ship and the crew.

4.2 Preparations for the Rescue

Prior to commencing any rescue operations, the safe navigation of the ship should be considered and other vessels in the area advised. As appropriate, navigation lights and shapes as required by the IMO Collision Regulations3 should indicate the current status of the ship.

There may be limited time to complete preparations before a rescue is initiated.

So far as practicable, a thorough briefing of all ship's crew regarding the anticipated operation should be conducted. Prior to the start of operations, crew with specific duties should be additionally briefed and any questions addressed. Equipment expected to be used during rescue operations should be assembled and prepared in the anticipated locations for use. Emergency and first aid equipment should be readily available.

The priority should be to ensure that every crew member involved in a rescue is properly prepared and equipped. The safety of the ship's own crew will remain the primary concern of the Master. This requirement should never be compromised in any attempt to rescue people, nor later while rescued persons remain on board nor during their disembarkation.

Crew members should have access to appropriate PPE at all times and use it whenever necessary.

4.3 General Considerations for Conducting the Rescue

The critical factor when dealing with large scale rescue at sea will be the number of people involved. This can make prioritising survivors for rescue, transportation in lifeboats or rescue boats, and embarkation very challenging and potentially hazardous. To help manage the situation and ensure the safety - and security - of all involved, the Master and crew should:

- Where practical, instruct those awaiting rescue to remain in their craft unless ordered otherwise;
- Remain calm and display appropriate authority and control in all communications with the rescued persons;
- Wear uniform (or clothing that clearly identifies those who are part of the ship's crew);
- Take measures to keep those rescued calm, in order to ensure the safety of all involved. Keeping family units together will help with this; and
- Endeavour to recover persons as swiftly as the conditions and the situation allow. As much order as possible should be maintained to ensure that the operation is carried out effectively.

4.4 Embarkation of Rescued Persons

Embarkation is the most challenging phase of a rescue operation. Masters and crew should use ship specific plans and procedures, adapted for the circumstances, to:

- Safely embark rescued people;
- Ensure that embarkation is carefully controlled. This process will be determined by the capacity of rescue boats, lifeboats and other embarkation methods;
- So far as is possible, control what items are brought on board;
- Record numbers of adults, children and those requiring medical attention. This should not hold up the process of embarkation, and if necessary should only be conducted once all rescued persons are on board; and
- Document the embarkation process to create a statement of facts.

By managing the embarkation effectively, Masters and crew will remain in control of the situation. They will then be better placed to manage their own safety and the security of the ship.

5. Management of Rescued Persons

Those rescued should be treated as humanely as the design and limitations of the ship and the capability of the crew allow. The ability to protect rescued persons from adverse weather conditions (including sun and heat) should be advised to Rescue Coordination Centres (RCCs) as a priority, to ensure appropriate disembarkation at the earliest opportunity.

The Company Security Officer (CSO) and its Ship Security Officers (SSOs) may wish to consider addressing the points listed below in the Ship Security Plan required by the IMO ISPS Code .

5.1 Accommodation and Management

A carefully considered plan for the accommodation and management of rescued persons will assist the crew in maintaining control, and will help to preserve the safety and security of the ship and crew.

Initial actions following embarkation should include:

- Moving the embarked persons quickly to a predetermined area (a controlled environment). Ship's personnel who work in and monitor the area should wear uniform or suitably identifying clothing, so far as this is consistent with the need to use PPE, and display appropriate authority;
- Recording the total number, age and gender, and medical condition of those rescued;
- Reassuring those embarked that they will be taken to a place of safety; and
- Providing shelter, food, water and medical attention, subject to the capabilities and limitations of the ship.

When considering the accommodation and management of rescued persons after embarkation, the following should be taken into account where practicable:

- Accommodating the sick and/or injured separately;
- Accommodating women, unaccompanied children, families and single men in separate groups and/or areas;
- Accommodation should be well ventilated;
- Victualing arrangements; and
- Location of sanitary facilities.

Establishing trust through good communication with the people embarked will enable the crew to identify any individuals who may be in a position of authority, or respect, to help the crew to manage the rescued persons.

5.2 Medical Care

The International Medical Guide for Ships provides detailed guidance on diagnosing, treating and preventing health problems in seafarers. Chapter 28 provides specific guidance on medical matters relating to rescued persons.

Reference should be made to the International Medical Guide for Ships, Chapter 23 which includes guidance on managing infectious diseases and/or viruses, and the latest 'International Travel and Health' information and updates from the World Health Organization (WHO) which can be accessed via the WHO website. Such information may provide an early indication of particular health risks and inform the development of on board safety precautions and procedures.

5.3 Sanitation and Hygiene

Preventing the spread of sickness or illness should be a priority. Any outbreak of illness or spread of infection will harm those rescued and pose a risk to the crew. Ship specifi plans

and procedures should provide detail on protecting th health of the crew and take account of the WHO Guide to Ship Sanitation, Section 8.

Some basic precautions will include:

- Provision of sanitary facilities on at least a 1:50 basis;
- Separation of sanitary provisions from food and water supplies;
- Separation of healthy rescued persons from those that are sick, as much as possible;
- Preparedness to provide a suitable location (preferably refrigerated) to store the bodies of any recovered persons who subsequently do not survive;
- Crew should make use of the following, if available, on board:
- Fluid-resistant, impermeable long sleeve coveralls; – Latex or nitrile gloves;
- Respiratory protection; and
- Eye protection.

Crew should make use of a sanitiser from suitable dispensers on entry and departure from areas accommodating rescued persons, and remove and quarantine any clothing or PPE used, including footwear.

Appropriate disposal methods for material contaminated with human waste and bodily fluids should be carried out in accordance with the latest WHO Guide to Ship Sanitation and the ship's Garbage Management Plan (as required by Annex V of the IMO MARPOL Convention). This will involve the quarantining on board of any PPE, bedding, clothing and other materials considered to be contaminated, prior to appropriate disposal ashore. Appropriate annotations will be required in the ship's Garbage Record Book (also required by MARPOL Annex V).

5.4 Security of the Crew and Ship

Following large scale rescue operations, the number of embarked persons may likely outnumber the ship's crew. For this reason, careful management is essential for the safety security and wellbeing of all involved.

Appropriate security measures in accordance with ship specific plans and procedures should be implemented to limit risk to crew and ship safety, the possibility of rescued persons becoming stowaways or, in extremis, even attempting to hijack the ship and its crew. As soon as any concerns become apparent the Master must request assistance through a Rescue Coordination Centre (RCC).

Security procedures should be put in place to:

- Limit access to sensitive and/or dangerous areas of the ship and contain embarked personnel within the intended accommodation or other designated areas;
- Periodically verify the security of any areas with limited access;
- Limit the personal items that the rescued persons bring on board;
- Establish controlled areas in order to facilitate supervision and monitoring. Different zones could be demarcated by rope or tape. Where practical and safe, physical barriers including locks and chains may be used;
- Enforce strictly any policies relevant to the safety of the ship and the crew, for example 'no smoking' and use of naked lights, particularly on board tankers or vessels where hazardous cargoes are being carried. On tankers, for example, this may include enforcement of policies regarding use of phones and other electronic devices that carry the risk of ignition, and the Master may decide on a policy of confiscation;
- Establish watches and plans for monitoring those embarked. This may involve continuing to count rescued persons at regular intervals;
- Ensure that crew members whose role and responsibility is the monitoring and supervision of embarked personnel wear uniform or clothing that identifies them as

crew. The wearing of uniform will help to display appropriate authority and to maintain control. However, the use of PPE is essential and if found to be incompatible with the wearing of uniform the correct use of PPE should take precedence;

- Limit the availability of information to rescued persons regarding security routines, the number of crew, any other information about the ship, or the involvement of coastguard or naval vessels;
- Control the taking and sharing of pictures of the rescue operation;
- Establish actions to be taken in the event that a fight or dispute arises between the rescued persons; and
- Manage potential conflict by the use of appropriate accommodation and segregation wherever practical.

6 Disembarkation of Rescued Persons

A prolonged wait for disembarkation will make the challenges of accommodating and managing rescued persons more difficult for Masters and crew.

6.1 Disembarkation in Port

Primary responsibility for arranging the disembarkation of those rescued lies with the State responsible for the SAR region in which the rescue took place. Disembarkation should occur in a place of safety at the earliest opportunity with reference to:

- The particular circumstances of the ship, including the ability to accommodate and treat rescued persons appropriately; and
- The need to minimise deviation from the planned voyage.

Responsibility for arranging disembarkation does not lie with the company or Master. Any screening that may be required by the Port State or its officials should not be undertaken by the crew, nor should it delay disembarkation.

6.2 Disembarkation at Sea

The transfer of rescued persons to another vessel may be lengthy and potentially hazardous. Should such a procedure be proposed, Masters should discuss the planned operation as soon as possible with the appropriate RCC and with the intended transfer vessel(s) to determine a plan that minimises risk to crew and the rescued persons.

6.3 Post Disembarkation Actions

Following disembarkation, in order to support the ongoing safety and security of the crew, it is important that the following actions take place:

- An extensive search for stowaways on board immediately after the transfer/disembarkation of rescued persons; and
- Effective cleaning with hot water, detergent and disinfecting solution of areas that accommodated rescued persons, supported sanitary arrangements, or which were used for the storage of any non-survivors.

6.4 Crew Welfare Considerations and Actions

Following involvement in a rescue operation the health and welfare of the ship's crew should be monitored in order to detect any latent physical or mental effects. A number of diseases and infections have a prolonged incubation period and ongoing health monitoring should reflect this.

Seafarers may experience stress or psychological after effects following a rescue operation. The full psychological impact on the Master and/or crew from involvement in a rescue operation may only become apparent after the passage of time, perhaps even after the seafarer has left the vessel.

The company and ship's plans and procedures should address this possibility, with appropriate support and monitoring of crew members.

Fatigue may be an issue if not properly managed after a rescue operation. Any short term disruption to rest and work patterns should be limited to that which is absolutely necessary.

Companies should be aware that following large scale rescue operations there may be adverse responses from the Master and crew which will need to be acknowledged and managed by companies, either within existing policies and procedures, or on a case by case basis.

Appendix A

Company Checklist for a Large Scale Rescue Operation at Sea

1. The company should consider adapting ship specific plans and procedures for rescue of persons from the water, taking account of the following:

- Safe use of ship lifesaving appliances and PPE to support large scale rescue operations;
- Familiarisation of crew with procedures for the conduct of large scale rescue operations;
- On board training and drills for large scale rescue/ recovery operations;
- Sheltered and appropriate accommodation of large number of rescued persons;
- Security of the ship during large scale rescue operations; and
- Post disembarkation clean up actions and contaminated waste disposal.

2. Ensure that company medical, health and safety, and welfare procedures are adapted to include any special considerations following large scale rescue operations at sea.

Additional Sources of Information:

- UNHCR/IMO/ICS Rescue at Sea: A Guide to Principles and Practice as Applied to Refugees and Migrants;
- ICS Recovery of Persons from the Water: Guidelines for the Development of Plans and Procedures;
- IMO Guidelines for the Development of Plans and Procedures for the Recovery of Persons from the Water (MSC. 1 /C irc.1447);
- IMO Guide to Recovery Techniques (MSC.1/Circ.1182);
- IMO Guide for Cold Water Survival (MSC.1/Circ.1185/ Rev. 1);
- WHO Guide to Ship Sanitation; and
- WHO/IMO/ILO International Medical Guide for Ships.

Appendix B

Master's Checklist for a Large Scale Rescue Operation at Sea

It is recognised that time may not permit the completion of all preparations in accordance with ship specific plans and procedures before a rescue operation is necessary.

However, the following preparations for a large scale rescue operation should be completed to the extent that time allows, with ship and crew safety as the principal concern:

1. Determine if a distress situation exists based on the information available to the Master;
2. Plan a rescue in accordance with ship specific plans and procedures, modified as appropriate by the Master for the situation;
3. Make preparations for a rescue including:
   - Approach method – it is recommended that rescue is normally conducted using a rescue boat or lifeboat, rather than bringing the ship alongside the craft in distress; and
   - Embarkation plan – to ensure the calm and orderly embarkation of all persons to be recovered;
4. Conduct the rescue:
   - Carry out ship specific plans and procedures – focus on crew safety, appropriate PPE and good communications; and
   - Establish trust – instil calm by reassuring rescued persons and, if available, provide life vests, water and nutrition;
5. Prepare accommodation:
   - Prepare a safe and secure area of the ship and provide crew with appropriate PPE (at least a disposable mask and gloves);
   - Be prepared to segregate women/children and any obviously sick or injured persons but also allow for family groups to remain together;
   - Count the number of people on board, noting children and medical cases;
   - Maintain sanitary conditions to protect the health of rescued persons and the crew; and
   - Provide water, nutrition and basic medical care within the capabilities and limitations of the ship;
6. Plan security:
   - Establish watch routines for monitoring security;
   - Limit access to the ship and dangerous areas; and

- Remain vigilant to potential conflict between rescued persons;

7. Engage with the RCC to agree a place of safety for disembarkation based on the particular circumstances of the rescue and the planned voyage of the ship;
8. Plan post disembarkation actions:

- Clean and disinfect areas of the ship used for accommodation, sanitary provisions and medical care;
- Check for stowaways; and
- Dispose of used PPE and any contaminated waste appropriately.

Additional Sources of Information:

- IMO/ICAO IAMSAR Volume III;
- UNHCR/IMO/ICS Rescue at Sea: A Guide to Principles and Practice as Applied to Refugees and Migrants;
- ICS Recovery of Persons from the Water: Guidelines for the Development of Plans and Procedures;
- WHO Guide to Ship Sanitation; and

WHO/IMO/ILO International Medical Guide for Ships.

Inséré le 13/02/02 HISTORIEK HISTORIQUE Enlevé le 13/03/15

Mille ans de navigation (1ère partie)

1. Le « Portus » primitif aux Xe et Xle siècles

A la fin du Xe siècle, il existait, dans le Pagus du Brabant une petite agglomération sur un coteau, dominant la vallée, là où la rivière s'étale entre quelques îles et déborde dans les marais.

110. Vue de l'Escaut par Louis Garneray (1783-1857). (Musée de la Marine, Paris).
110. Scheldezicht door Louis Garneray (1783-1857). (Musée de la Marine, Paris).

La Senne vient du Sud, limpide et claire, en sinuant entre les collines qui la bordent à l'Est et la plaine marécageuse qui s'étend vers la mer, bien loin. C'est parce qu'elle est capricieuse et sujette à des crues subites que les hommes ont construit leurs cabanes sur le versant opposé au couchant. Ils y vivent paisiblement, à l'écart des grandes voies que les Romains ont tracées voici près de mille ans à travers le pays.

Car les Romains ont passé, les Francs se sont à peine arrêtés et la civilisation n'a fait qu'effleurer ces lieux oubliés. Et pourtant, deux routes majeures passent non loin : au Sud la grande voie qui va de Cologne à Bavai, au Nord, plus proche, celle qui, du Rhin rejoint la mer du Nord.

De la bourgade groupée autour d'une chapelle consacrée à Saint Michel, un chemin rural, un « diverticulum » suit le versant vers le Nord pour rejoindre la voie romaine en un lieu qui sera plus tard Evere, et vers le Sud il suit ce qui deviendra la Rue Haute pour se raccorder à une autre transversale romaine : le chemin, le « Dieweg ».

Mais un chemin descend de la colline, franchit la rivière et se prolonge vers l'Ouest, vers les villes naissantes des Flandres. C'est la plus vieille artère de Bruxelles, la route féodale qui sera plus tard la « Steenweg ». Il est encore possible de la suivre de nos jours en descendant de la Cathédrale Saint-Michel vers la Rue Marché-aux-Herbes, la rue Marché-aux-Poulets et la rue de Laeken.

Un pont enjambe la Senne, un pont en bois à deux arches. Il marque l'endroit où le cours d'eau devient navigable et d'où des barques descendent le courant jusqu'à la Dyle, puis vers le Rupel et l'Escaut. De très vieux documents signalent l'existence de ce pont et témoignent déjà d'une activité commerciale à cet endroit. Comme l'accostage des barques était rendu difficile par les rives boueuses, elles s'amarraient sous les arches et après avoir retiré le tablier du pont, on déversait directement les marchandises dans les bateaux.

C'est en 979 que Charles-de-France, nouveau Duc de Basse-Lot haringie, érige un château-fort sur une île toute proche. Sans doute, le « Castrum », n'est-il qu'une levée de terre circulaire, surmontée d'une robuste palissade de bois, entourant un donjon massif, l'ensemble étant protégé par la Senne qui l'enserre. Cependant, le château apporte la sécurité et très vite, des habitants se fixent aux alentours. Des échanges s'établissent et un marché, le « Stadium », s'ouvre sur l'autre rive de la Senne à l'emplacement de l'actuelle Place de la Bourse.

Ici survient un événement déterminant dans l'histoire du développement de Bruxelles.

Après les grandes invasions germaniques, un va-et-vient commercial s'était établi entre les régions rhénanes et celles de l'Escaut et de la Mer du Nord. Ce courant économique empruntait la vieille voie romaine, jalonnée de cités naissantes : Tongres, Maestricht, Tirlemont, Louvain, Alost, Gand. Dès que la saison s'y prêtait, des caravanes de chariots lourdement chargés animaient la route, escortées d'hommes armés, car le voyage était moins que sûr. Les étapes étaient d'ailleurs choisies en fonction de la sécurité qu'elles pouvaient offrir aux convois qui s'y arrêtaient.

Les marchands apprirent vite qu'un lieu nommé Broeksele leur offrait la protection d'un château-fort, la possibilité de vendre ou d'acheter sur un marché organisé et de disposer d'un moyen de transport aisé pour acheminer leurs marchandises vers le Nord. Dès lors, au lieu de franchir la Senne près de Vilvorde, ils infléchissent leur route vers le Sud et à Evere, ils empruntent l'antique « diverticulum » agricole jusqu'à l'oratoire Saint-Michel d'où ils descendent vers le « portus » par la route féodale.

L'axe économique a basculé et s'oriente dans le sens Nord-Sud. Le destin des deux petites agglomérations, celle de la colline et celle de la vallée, est fixé pour les siècles à venir : la ville est née.

L'essor est donné, un nouveau marché, le « forum », est créé, à proximité duquel les marchands érigent une chapelle dédiée à Saint Nicolas, leur patron. Les familles de

notables, les Lignages, élèvent le long de la « Steenweg » leurs demeures de pierres, les « Steenen ». Le Duc Lambert II fait entourer la ville d'une enceinte fortifiée et construit un nouveau château au Coudenberg, sur le haut de la colline. Des quartiers se dessinent qui deviennent le fief des populations artisanales : les oouchers, les forgerons, les teinturiers. Le long de la Senne, près du « Castrum » désaffecté, le port connaît une activité intense : la Senne est devenue l'artère du coeur de Bruxelles.

2 La navigation sur la Senne

A travers tous les siècles, la voie d'eau a constitué un moyen de transport privilégié, tant pour les hommes que pour les marchandises. Les voies romaines ont eu une importance primordiale pour répandre la civilisation et créer des rapports entre les pays conquis et Rome, mais elles n'ont jamais pu assurer qu'une très lente circulation des produits d'échange.
Le rendement du transport fluvial reste infiniment supérieur aux autres moyens de transport en usage aux siècles passés.

Au XVIIe siècle, Vauban estimait « qu'un bateau de grandeur raisonnable peut, à lui seul, avec six hommes et quatre chevaux mener la charge que quatre cents chevaux et deux cents hommes auraient peine à mener par les chemins ordinaires ». Deux siècles plus tard, Arago définit l'intérêt du transport fluvial de façon plus scientifique : un cheval de bât ne peut porter sur son dos que 100 kilos au maximum; attelé à une voiture circulant sur une bonne route empierrée, il traînera 1.000 kilos, mais hâlant un bateau sur un canal, il peut tirer une charge de 60.000 kilos, sans plus de fatigue. Il est difficile d'imaginer actuellement ce que la Senne, ce mince cours d'eau, représentait pour la prospérité de la jeune cité : large d'à peine quelques mètres, fréquemment à sec en été, débordant dans les prairies en période pluvieuse, la petite rivière constituait un élément primordial de la prospérité urbaine.

En effet, le déclin de Bruges se poursuivait et Anvers lui succédait comme métropole commerciale de l'Occident. Les relations avec Anvers permettaient à l'industrie bruxelloise d'y acheminer régulièrement les produits manufacturés et d'en recevoir matières premières et approvisionnements de complément.

L'ancien « portus » s'est transformé : le « Nerf » est déjà doté d'une infrastructure importante pour l'époque : quais, grue, entrepôts. Depuis l'antique pont de bois, il s'est étendu vers l'aval, en direction de l'enceinte qui a été construite depuis 1134. L'emplacement correspond sensiblement à celui ouvert aujourd'hui par le parking à étage qui a remplacé les Halles centrales, entre la rue Marché-aux-Poulets et la rue de l'Evêque. Mais la capacité de chargement des bateaux, tout comme leur taille a augmenté et la rivière impose des limites qu'il est difficile de dépasser.

En effet, au cours des siècles, la physionomie de la Senne s'est modifiée. Son débit a diminué, à la suite des défrichements qu'on a opéré dans les bois et les forêts qui bordent son cours supérieur, ses affluents se tarissent et son lit s'ensable graduellement. Le draguage primitif, tel qu'il était pratiqué à l'époque, ne permettait pas de maintenir une profondeur suffisante et dans le cours inférieur, la marée ne remontait plus assez haut pour assurer un entraînement naturel des alluvions.

D'autre part, les inondations étaient fréquentes. Le bassin de la Senne est étendu et elle déborde de façon subite. Des mesures ont été prises pour mettre les habitants de Bruxelles à l'abri de ces crues brutales, sans grands résultats d'ailleurs. Quant à la navigation, elle était rendue hasardeuse et en période sèche, elle devenait impossible.

Mais le grand souci des marchands bruxellois était d'ordre plus politique que technique. A cette époque où le régime communal atteignait son plein développement, la rivalité des

cités se manifestait de façon aiguë et débouchait fréquemment sur des luttes armées dont la population faisait les frais.

La navigation sur la Senne eut à pâtir de ces rivalités au cours des XIVe et XVe siècles. En effet, en aval de Bruxelles, Vilvorde et principalement Malines s'efforçaient de freiner l'expansion de leur rivale en entravant le trafic et en le frappant de droits de passage de tous ordres.

A la fin du XII le siècle, Edouard ler d'Angleterre ayant formé une ligue contre Philippe-le-Bel, le Duc de Brabant Jean II qui était le gendre du souverain anglais, se joignit à cette coalition. Son frère Godefroid de Brabant choisit le camp français. La Flandre était l'enjeu de la lutte, comté limitrophe du Duché de Brabant. Dans la perspective du conflit qui allait s'ouvrir, il était indispensable pour le suzerain de s'assurer la fidélité de ses vassaux ainsi que celle des villes en accordant à celles-ci franchises et privilèges supplémentaires.

En 1301, deux ans avant la bataille des Eperons d'Or à Courtrai, Jean Berthould, seigneur de Malines, obtint de Jean II l'établissement d'un droit de péage au profit de sa ville. Ce droit fut jugé exorbitant par les Bruxellois, car leurs marchands étaient contraints de venir exposer en vente au marché de Malines le sel, le poisson et l'avoine. Les bateliers devaient remonter la Dyle jusqu'à Malines sur plus d'une lieue de distance et seulement ensuite pouvaient redescendre jusqu'au confluent avec la Senne pour continuer leur navigation vers Bruxelles.

Les Bruxellois tentèrent immédiatement de se soustraire à cette obligation qu'ils estimaient incompatible avec leur liberté de commerce. Le conflit s'envenimant, les gens de Malines eurent recours aux grands moyens : un fortin fut construit sur la rive droite de la Dyle, le « Blockhuys », hameau existant encore actuellement, et comme il restait pratiquement inopérant, ils barrèrent la Senne au moyen d'une lourde chaîne à hauteur du village de Heffen.

Cette situation, hautement préjudiciable au commerce bruxellois, se maintint pendant près de cent-cinquante ans et donna lieu à des procès interminables devant la juridiction ducale.

En effet, la rvalité entre Bruxelles et Malines au Moyen-Age passa par des phases successives où alternaient une animosité latente, des tentatives de collaboration plus ou moins loyale et des crises aiguës. Il est à noter que c'étaient toujours le poisson, le sel et l'avoine, objets du droit contesté qui concrétisaiant les arguments juridiques des parties, auxquelles Anvers était d'ailleurs fréquemment mêlée.

Comme progressivement les territoires de l'Ammanie de Bruxelles s'étaient étendus autour de Malines, les Bruxellois avaient pris des mesures de représailles en interdisant de livrer des céréales et d'autres denrées de base à leur rivale.

Bref, en fonction des circonstances, la chaîne de Heffen était tendue ou retirée, les bateaux naviguant sur la Senne passaient ou ne passaient pas.

Ainsi, en 1412, les Malinois qui venaient de règler avec Anvers leur différent sur le sel, le poisson et l'avoine, firent confirmer par Antoine de Bourgogne le droit d'étape de 1301 vis-à-vis de Bruxelles et firent saisir quatre bateaux de sel et deux bateaux de drap anglais appartenant à des marchands bruxellois.

Les Ducs de Brabant et de Flandre réglèrent une fois de plus le litige par des décisions qui ne contentaient personne et ne furent pas appliquées.

En 1432, nouvelle crise : la chaîne est tendue de nouveau à Heffen; cette fois-ci, c'est Bruxelles qui place des postes de contrôle sur les routes menant à Malines pour empêcher l'arrivée des grains. Les Malinois ripostent en attaquant la garnison qui occupait le village de Ruysbroeck, près de Willebroeck. C'est une véritable guerre qui obligea Philippe le Bon à intervenir : il obtint finalement que les Malinois libèrent le trafic sur la Senne à titre provisoire.

Quelques jours après la Joyeuse Entrée de Charles le Téméraire à Bruxelles en 1467, celui-

ci doit agir contre les Malinois, en rébellion envers leurs magistrats et qui avaient de nouveau saisi des bateaux à Heffen. Les Bruxellois serônt indemnisés, mais rien n'est décidé pour l'avenir.

Dix ans plus tard, en février 1477, Charles le Téméraire trouvait la mort à la bataille de Morat et le duché revint à sa fille Marie. La nouvelle duchesse a vingt ans et son époux est un étranger, Maximilien de Habsbourg.

Pour les villes des Pays-Bas, c'est le signal d'une violente réaction qui ouvre une période sombre qui durera vingt années et qui marquera la fin du Moyen-Age dans nos pays. L'insu rection de Bruxelles fut particulièrement brutale et le gouverneur, Philippe de Clèves, dut reconnaître au nom de la Duchesse, le nouvel ordre démocratique instauré dans la ville.

La prestation de serment de Marie de Bourgogne eut lieu à Bruxelles le 4 juin 1477 et à cette occasion, une décision importante parmi d'autres fut prise : celle de créer « une nouvelle rivière » pour, à la fois, remédier aux difficultés de navigation sur la Senne et éviter le passage par Malines.

Un acte d'octroi de vingt-trois articles fut établi en bonne et due forme, prévoyant que Bruxelles bénéficierait de la moitié des droits à percevoir et exemptant de taxes les habitants de la ville pendant douze ans en remboursement des frais de construction du canal.

Mais la concession de Marie de Bourgogne resta lettre morte. En effet, Malines n'acceptait pas de gaieté de coeur d'être dépossédée des droits qu'elle exerçait sur la navigation sur la Senne et les études et les projets avortèrent les uns après les autres. Marie de Bourgogne étant morte accidentellement en 1482, son mari Maximilien de Habsbourg eut à faire face à un mouvement insurrectionnel qui contestait son autorité. Les Malinois en profitèrent pour rétablir la chaîne de Heffen et obtinrent même la confirmation de leur privilège.

Le vieux litige avait ressurgi, les parties restant plus véhémentes que jamais. Une fois de plus, le souverain Charles-Quint dut intervenir et en juin 1531, il donna gain de cause à Malines, mais autorisa les marchands bruxellois à acquitter les droits réduits à Heffen, sans faire le détour par Malines.

Mais les Bruxellois, forts de l'octroi de Marie de Bourgogne, refusèrent ce qu'ils considéraient toujours comme une sujetion et présentèrent à l'Empereur un projet concret par lequel le futur canal aboutissait au Rupel sans passer par le territoire malinois. Et le 7 novembre 1531 Charles-Quint confirma définitivement l'octroi de 1477.

Il fallu encore près de vingt ans avant que soit donné le premier coup de pelle, car les Malinois, avec l'énergie du désespoir, firent tout pour retarder l'ouverture des travaux. Après d'ultimes péripéties, la Régente Marie de Hongrie signa le 30 mai 1550 l'acte qui levait définitivement les derniers obstacles.

Cet acte fixait également le gabarit du canal et les dimensions des digues spécialement entre le Rupel et la première écluse à Willebroeck. En effet, ce bief supportait encore, à cette époque, l'effort de la marée et les digues supportant le canal devaient être particulièrement résistantes. L'acte de Marie de Hongrie spécifiait d'ailleurs qu'il ne serait pas permis de percer la dernière digue du Rupel, sans une autorisation spéciale de la Régente, ceci afin de vérifier une dernière fois la bonne exécution des travaux à cet endroit spécialement vulnérable.

Quinze jours après la signature de l'acte, le 18 juin 1551, le magistral de la Ville de Bruxelles, ainsi que les commissaires du Gouvernement, se rendit à Willebroeck et Jean de Locquenghien, bourgmestre de Bruxelles, donna le premier coup de pioche ouvrant ainsi officiellement les travaux.

3. La construction du canal de Willebroeck

Il est difficile d'imaginer, à notre époque de haute technicité, la façon dont fut réalisé le canal vers le Rupel. Certes, les moyens techniques dont nous disposons actuellement sont sans comparaison avec ceux, primitifs et rudimentaires qui furent mis en oeuvre pour le creusement de cette tranchée de 28 kilomètres de long. Mais il est surprenant de constater la rigueur dès études préalables, le soin apporté aux travaux d'arpentage et d'expropriation, l'esprit d'ouverture envers les techniques nouvelles, sans omettre le programme de financement très élaboré qui allait permettre de mener à bien ces travaux gigantesques pour l'époque.

Dès la confirmation de l'octroi des travaux par Marie de Hongrie en mai 1550, une commission fut constituée : Corneille Scheppers, membre du Conseil Privé, et Charles Quarré, conseiller du Brabant, y représentent le gouvernement. La Ville de Bruxelles a délégué son bourgmestre, Jean de Locquenghien, Adolphe Van Donveryn, représentant les familles patriciennes, et Jean Stassaert, marchand d'étoffe, député des Nations. Les délégués de la Ville sont chargés « de rechercher les dons volontaires et conférer avec les seigneurs vassaux et autres sur les terres desquels le canal passera ».

La technique fiscale mise au point pour assurer la rentrée des fonds nécessaires aux travaux vaut la peine d'être signalée. Un emprunt fut émis sous forme de titres de rente de 5.000 Florins Carolus. Le droit d'accise sur la bière fut augmenté et un droit d'entrée fut établi sur les vins étrangers. Un impôt d'un demi-sou était dû sur chaque rasière de seigle que l'on cuirait dans la ville et un impôt de deux-blancs sur chaque rasière de froment. Il fut également créé une taxe sur chaque petit pain blanc consommé mais elle dut être supprimée après trois ans à la suite des réactions de la population, trop durement atteinte dans ses habitudes gastronomiques.

L'animateur de l'entreprise fut le chevalier Jean de Locquenghien, seigneur de Koekelberg, et bourgmestre de Bruxelles. Esprit éclairé, à la fois juriste, administrateur, organisateur et ingénieur, il fut la cheville ouvrière des travaux et s'entoura de collaborateurs d'une incontestable compétence.

Il s'attacha comme conseiller Simon Maertense, bourgmestre de Zierikzee qui joua un rôle important dans l'élaboration des travaux. Il n'en vit malheureusement pas l'aboutissement, il mourut à Bruxelles en 1557 et fut inhumé à Sainte-Gudule.

L'ingénieur milanais Georges Rinaldi aurait été l'auteur du siphon dit « des Trois Trous », mais ne serait d'après certains historiens que l'inventeur des bateaux brise-glace qui furent mis en service dès 1563. Mais il est sûr que Rinaldi devint plus tard directeur général des fortifications sous Alexandre Farnèse et le constructeur du pont de bateaux sur l'Escaut qui assura le blocus d'Anvers lors du siège de 1584.

Citons encore Gilbert Van Schoonebeke qui avait construit une célèbre machine hydraulique à Anvers et le géomètre Adrien Van Bogaerden qui mesura tous les terrains à acquérir le long du tracé du canal.

D'autres techniciens éminemment compétents furent appelés tant à l'étranger qu'aux Pays-Bas, à Gand, à Anvers et à Mons.

Le tracé était celui qui avait été présenté à Charles-Quint dès 1531. Laissant le cours de la Senne à l'Est, le canal sortait de l'enceinte entre la porte de Laeken et la porte de Flandre (à l'emplacement de la place de l'Yzer actuelle) et montait vers le Nord à l'Ouest de Vilvorde, passant Humbeek, Kappellenbos, Thisselt et Willebroeck, il débouchait dans le Rupel à Petit- Willebroeck en face de Boom.

La différence de niveau à racheter sur la distance de près de trente kilomètres atteignait une douzaine de mètres et nécessitait la construction d'écluses.

Si les canaux existaient déjà de longue date en pays plat où l'absence de pente ne suscitait pas de problèmes (le canal de Gand à Bruges date du XIVe siècle) la situation était différente dans les régions d'altitude relativement plus élevée.

La technique de l'époque consistait à créer des barrages de retenue délimitant plusieurs biefs. A divers intervalles, fonction de la heuteur d'eau, on entrouvrait la porte du barrage pour alimenter le bief aval, puis on procédait au « Lachage » des bateaux en attente; ceux-ci profitant du courant ainsi créé artificiellement poursuivaient leur route jusqu'au poste d'attente au barrage suivant. Cette méthode entraînait une importante consommation d'eau et provoquait un allongement très appréciable du temps de parcours.

On attribue à Léonard de Vinci, à tort ou à raison, l'invention des écluses. Il est certain qu'il dessina, en 1497, des écluses à sas à portes busquées et qu'il établit des projets de canalisation de la Loire. Ses travaux furent poursuivis et en 1550, Adam de Craponne résoud le problème du bief de partage des eaux.

Les auteurs de l'étude du canal de Bruxelles au Rupel avaient suivi attentivement l'évolution de cette technique et envoyèrent des délégués à Milan examiner les écluses conçues par Léonard de Vinci. Ils décidèrent d'adopter ce principe pour les quatres écluses du canal à Trois-Fontaines, Humbeek, Thisselt et Willebroeck. Une cinquième écluse fut construite en 1570 à Petit-Willebroeck à la jonction avec le Rupel.

Un dessin détaillé de ces écluses de six mètres de passage figure très clairement sur le plan du canal inclus dans l'ouvrage « Nieuwe Chronycke van Brabant » datant de 1565: un bassin hexagonal allongé fermé en amont et en aval.

La construction de ces écluses donna lieu à des difficultés qui retardèrent les travaux à plusieurs reprises.

La première, celle de Willebroeck, fut entamée dès la fin de 1551. Elle était établie sur un radier constitué par un gigantesque grillage en bois. L'adjudicataire — Nicolas Tambuyser, fripier de profession ! — fit défaut et c'est la ville qui dut fournir elle-même les bois de fondation; ce n'est finalement qu'en 1557 qu'elle fut achevée définitivement.

L'écluse de Thisselt fut commencée en 1554 et bâtie sur pilotis, mais dès le début de l'année suivante, on constata qu'elle se lézardait et se déformait. Il fallu la démolir et la reconstruire sur grillage, ce qui nécessita deux ans de travaux.

L'écluse de Humbeek, construite en 1557, fut mise en service, mais un peu plus d'un an après l'ouverture du canal, elle s'écroula le jour de Noël 1562. Le trafic fut détourné par la Senne et l'écluse étant à sec, on constata dans les fondations l'existence d'une source. Il fallut recourir à l'expérience d'un Zélandais particulièrement compétent qui capta celle-ci et la détourna hors du lit du canal. Sans doute parce qu'aucune difficulté n'avait surgi lors de la construction de l'écluse de Ransbeek achevée en 1561, on décora celle-ci d'une fontaine surmontée d'un Saint-Michel.

Le canal était alimenté au moyen de prises d'eau le long du cours de la Senne. A Bruxelles, on disposait de la dérivation de la Senne ou Petite Senne qui courait extra-muros de la porte de Flandre à la porte de Laeken, elle fut détournée vers le canal à Molenbeek au lieu-dit Le Chien Vert. Afin de collecter les eaux coulant du versant occidental de la rivière et celles qui venaient de l'amont en période de crue, on construisit des aqueducs dont le principal était le siphon des Trois-Trous, tellement remarquable sur le plan technique que Pierre le Grand le dessina lors de son voyage d'Anvers à Bruxelles.

Les terrassements furent adjugés en dix lots et les travaux se poursuivirent régulièrement jusqu'en septembre 1554, date à laquelle les six premiers lots étaient terminés, de Willebroeck aux pâtures de G rimberghe. Mais comme les chantiers approchaient des territoires lui appartenant, Vilvorde manifesta son opposition : la ville craignait que la Senne ne devint impropre à la navigation, à cause du détournement de ses eaux vers le canal.

Une action judiciaire ayant été introduite par la ville de Vilvorde, les travaux de terrassements furent arrêtés en attendant qu'un jugement n'intervienne. Aucune conciliation ne s'avérait possible, Vilvorde refusant la construction d'une écluse dans son enceinte.

Finalement, Marie de Hongrie donna gain de cause aux Bruxellois mais les obligea à acquérir des terrains à l'Ouest de la ville pour y poursuivre les travaux.

La progression des chantiers reprit dès octobre 1555 et les quatre dernières sections du Château de Vilvorde à Bruxelles, étaient achevées en août 1561.

Les Malinois, toujours eux, se plaignirent auprès du gouvernement de l'interruption des communications avec les villes sises à l'Ouest de la voie d'eau.

Le Bruxellois avaient prévu le passage du canal au moyen de bacs, mais ils furent contraints d'établir des ponts : à Laeken et à Vilvorde, à Grimberghe (dit le Pont-Brûlé), à Humbeek, à Capelle-au-Bois, à Thisselt et à Willebroeck.

Bruxelles devait faire honneur à sa réputation de cité aimant le faste et la pompe et naturellement les réjouissances populaires. L'inauguration du canal fut l'occasion d'une semaine de festivités qui atteignit son point culminant le dimanche 12 octobre 1561.

Les Archives Communales conservent l'affiche qui fut placardée sur les murs de la ville pour annoncer le programme de ces jours fastes.

Les bateliers « de n'importe quelle ville ou endroit » étaient conviés à se rendre à Bruxelles « avec le plus de bateaux les plus élégamment équipés avec le plus grand nombre ».

Tous les types de bateaux étaient admis : Heu, Cogghe, Drummeller ou Pleit, à condition qu'ils ne dépassent pas vingt et un pieds de large et sept à huit pieds d'enfoncement.

Ils avaient à se réunir en aval de l'écluse de Willebroeck dès le 11 octobre, une heure avant la marée haute et une heure après celle-ci, afin d'écluser par groupe de huit à douze bateaux. Le trajet jusqu'à Bruxelles était prévu en cinq heures.

La concentration finale était prévue le dimanche 12 octobre à une heure de l'après-midi en amont de l'écluse de Trois-Fontaines. Le cortège nautique, préfigurant d'autres « Corso fluviaux » et « Grands Retour », devait alors, sous les salves des canons de remparts, gagner le premier des bassins nouvellement creusés intra-muros.

La « Nieuwe Chronycke van Brabant » déjà citée plus haut décrit complaisemment les fastes de cette magnifique arrivée.

Après la messe du dimanche à l'église Saint-Nicolas et un somptueux banquet à l'Hôtel de Ville, le Magistrat de Bruxelles, conduit par son bourgmestre Jean de Locquenghien, s'embarqua sur un « heu » pavoisé pour se rendre à la rencontre du convoi des invités.

Les Anversois parurent les premiers avec treize nefs splendidement pavoisées, sur lesquelles il y avait des orchestres, puis vinrent ceux de Vilvorde chargés de fruits et avec le plus de monde, puis un bateau de Zierikzee, garni des marchandises les plus diverses. De Gorkum arriva un petit pleit chargé de poissons et de Alkmaar un autre chargé de seigle. Un marchand hollandais dont le navire était drapé d'écarlate apporta une cargaison d'orfèvrerie.

A tous des prix magnifiques furent distribués : aux premiers, les Anversois en l'occurrence, un beau modèle de bateau en argent fin, à ceux de Vilvorde et de Zierikzee, le jury attribua à chacun une chaloupe en argent et les suivants des tasses et un Saint-Michel de même métal précieux. A tous, en plus des trophées en orfèvrerie, la ville offrit des barriques de vin du Rhin !

On peut imaginer la magnificence d'un tel spectacle, haut en couleurs, déroulant ses fastes. sous les acclamations enthousiastes du bon peuple de Bruxelles massé sur les rives et les quais et le vacarme ininterrompu des salves d'artillerie. Naturellement, selon les traditions,

la journée se termina par un gigantesque banquet où tous furent régalés de gigot de mouton et de vin du Rhin.

Et le reporter de la « Nieuwe Chronycke van Brabant » mentionne :Dat zij vromelycken te samen dronken Dat zij met rusten mochten ligghen ronken qu'ils burent pieusement ensemble, jusqu'à ce qu'ils en vinssent à ronfler. Et le feu d'artifice qui termina la journée ne les réveilla pas...

Jean de Locquenghien fut véritablement, selon le vocabulaire de l'époque, « l'auteur et le facteur » du canal et ses contemporains ne négligèrent pas de lui décerner titres et louanges et la ville de Bruxelles lui octroya une rente annuelle et perpétuelle de 300 Florins.

Mais Jean de Locquenghien était prudent : connaissant les moeurs de son temps, il exigea du gouvernement qu'une commission officielle contrôla avec soin les comptes des travaux exécutés sous sa direction et lui en donna décharge, ceci afin que lui-même et ses héritiers fussent à l'abri de revendications ultérieures. Totale satisfaction lui fut donnée en 1563 et à cette occasion la Ville lui demanda de continuer à assurer la direction de l'administration du canal, ce qu'il accepta avec empressement jusqu'à sa mort en 1574.

Près des vieux bassins, une rue porte le nom de Jean de Locquengien, mais rares sont ceux qui connaissent sa statue, au Jardin du Petit-Sablon, parmi celles de ses contemporains illustres, de part et d'autre du groupe des Comtes d'Egmont et de Hornes.

Ainsi, dès les premières années de son activité, le port de Bruxelles était déjà doté d'une infrastructure efficace et le trafic s'amplifia rapidement. L'avenir paraissait brillant pour la capitale des Pays-Bas espagnols.

Mais les événements qui ensanglantèrent notre pays étaient proches : quatre ans après les festivités qui marquèrent l'inauguration du canal, la gouvernante Marguerite de Parme rend officielles dans nos provinces les décisions du Concile de Trente contre les réformés. Un an plus tard, les seigneurs belges signent le Compromis des Nobles, les iconoclastes se déchaînent en Flandre et à Anvers. Les troubles s'étendent, en août 1567, le Duc d'Albe entre à Bruxelles à la tête d'une armée de dix mille hommes : la répression est impitoyable. Après Requesens qui succèdera au Duc d'Albe en 1 573, don Juan d'Autriche ne réussira pas mieux que lui à restaurer l'autorité de Philippe II. C'est Alexandre Farnèse, qui amorcera la pacification, mais il devra préalablement mâter les grandes villes rebelles : Gand, Bruxelles et enfin Anvers. Progressivement, il rendit leur ravitaillement de plus en plus aléatoire et finit par les isoler presque complètement.

Il entama le blocus de Bruxelles en s'attaquant immédiatement au canal. Par un coup de main hardi, il s'empara de Willebroeck le 28 juillet 1579. Bruxelles eût capitulé presque aussitôt si le colonel Van den Tympel, qui commandait la place, n'avait pas redressé la situation en reprenant la ville. La leçon porta ses fruits et il fortifia puissamment la ville reconquise et construisit le long du canal de multiples retranchements, bastions et redoutes.

Patiemment, Farnèse resserra le blocus autour de Bruxelles et en 1584, il s'empara finalement du fort qui commandait l'entrée du Rupel. Dès lors, il poursuivit son avance en enlevant Vilvorde en septembre de la même année.

A Bruxelles, la famine ne tarda pas à faire son apparition et la ville capitula le 10 mars 1585. Gand ayant succombé six mois plus tôt, Farnèse put concentrer ses efforts sur Anvers qui tomba à son tour après un siège mémorable.

Progressivement, le calme revient, les conflits s'apaisent, la confiance dans l'avenir renaît timidement. Ce n'est pas encore la paix, car les provinces protestantes du Nord demeurent menaçantes. Mais les gouverneurs qui succèderont à Alexandre Farnèse parachèveront l'oeuvre de pacification. En décembre 1599, les Archiducs Albert et Isabelle font leur Joyeuse Entrée à Bruxelles : trente ans de guerre civile se terminent.

Le canal a beaucoup souffert. On s'est furieusement battu pour prendre ou conserver la maîtrise de la voie d'eau. Les bandes espagnoles, durant le siège de Bruxelles, ont détruit les ponts, endommagé les écluses, rompu les digues. L'entretien a été réduit, sinon impossible.

Les frais de réparation et de remise en état atteindront la somme énorme de 50.000 florins. Pour en dédommager la ville, le gouvernement prorogera, pour un terme de douze ans, les exemptions fiscales qui avaient été accordées lors de la construction du canal.

Tout est à recommencer, mais l'outil est toujours là : le port et le canal vont tenir un rôle majeur dans la prospérité de Bruxelles à partir du XVIIe siècle.

A SUIVRE

Inséré le 15/02/02 NIEUWS NOUVELLES Enlevé le 15/03/15

Leading petrochemical companies show confidence in the Port of Antwerp with billion-dollar investments

As well as having a record year in terms of freight volumes handled, Port of Antwerp was delighted in 2014 that several leading energy companies announced record levels of investment in the port. Both ExxonMobil and TOTAL will be making huge strategic investments in Antwerp and meanwhile, the Port Authority itself is ensuring that the petrochemical cluster can thrive by a series of initiatives.

In the summer of 2014, US oil giant ExxonMobil showed its level of faith in the port by announcing a mega 1 billion dollar investment in its refinery. The company started to build a Delayed Coker Unit in October for converting heavy, high-sulphur oil residues into cleaner oil products and to produce transport fuel such as diesel and fuel oil for the maritime industry. Over the past decade the US company has already invested more than 2 billion dollars in Antwerp.

With this investment ExxonMobil will extend its product range and boost its competitive position worldwide. ExxonMobil already has a solid presence in Belgium, with a refinery of 320,000 barrels per day and three chemical plants (one for hydrocarbon solvents and two for polyethylene), plus its European R&D Centre.

French energy company TOTAL also made the decision to invest 1 billion euro in a modernisation programme for its Antwerp production plant. Antwerp is the company's largest refining and petrochemical platform in Europe. By concentrating its investments on this large integrated platform, TOTAL aims to reinforce its competitive position within the industry. One of the investment projects, named OPTARA, is a new refining complex intended primarily for converting heavy fuel oil into desulphurised diesel and domestic heating oil with ultra-low sulphur content, in response to the shift in demand towards more environmentally-friendly products. The new plant is due to begin operations in 2016.

BASF Antwerp has also started up a new extraction plant for butadiene. The Antwerp plant, which will have an annual production capacity of 155,000 tonnes, is the second BASF butadiene extraction plant in Europe after its headquarters in Ludwigshaven.

Meanwhile, Evonik Industries chose Antwerp to build the first commercial plant in the world to produce AQUAVI® Met-Met, an innovative feedstuff additive specially developed for aquaculture of shrimps and other crustaceans. In addition, the company is building a 100,000 tonne 1-butene production plant and expanding its methyl tertiary-butyl ether (MTBE) production capacity by up to 150,000 tonnes.

American industrial gas company Praxair is building its second air separation plant and extending its pipeline system in the Port of Antwerp. Thanks to this investment, Praxair will be able to increase its supply of oxygen and nitrogen to companies in the port.

At the same time, French industrial gas company Air Liquide is investing some 50 million euro, doubling its carbon monoxide (CO) production capacity in the Port. The CO will be

supplied to BASF, which uses the carbon monoxide for its methylene diphenyl diisocyanate (MDI) production. MDI is an important precursor for making polyurethane (PU), a plastic that can be supplied in various forms and has many applications, being used in freezers, refrigerators, the car industry and for varnishes, shoes, leisure articles amongst other things.

In 2014, leading speciality chemical company Lanxess has taken its new high-tech plastics plant in Lillo, on the on the left bank of the River Scheldt, into operation.

The new facility, which produces plastic for car parts has an annual capacity of 90,000 tonnes, and represents an investment of 75 million euros. Polyamide is used as a light plastic in the automotive industry, helping to reduce the weight of vehicles and in turn, lowering their fuel consumption and CO2 emissions.

Additionally, LBC Tank Terminals has responded to the new Emission Control Areas regulations concerning sulphur limitations. LBC added extra storage capacity allowing bunker players to meet the sulphur oxides limitations introduced on January 1, 2015. LBC's Antwerp now offers an additional 35,000 m3 capacity for storage of distillates and heavy fuel oil.

Meanwhile, Ineos Phenol Belgium and ADPO signed a cooperation agreement, which will give ADPO water access to the River Scheldt via the existing INEOS Phenol jetty and will connect the INEOS Phenol site to the European railway network. Supported by this cooperation ADPO is building a new 12 ha tank storage terminal on the left bank of the River Scheldt. This terminal will be named ADPO Liefkenshoek Logistic Hub or ADPO LLH. Phase 1 of this groundbreaking project will contain 27,000 m3 of mild steel and 10,000 m3 of stainless steel tank storage capacity, a 10,000 m² chemical warehouse and a 3 ha ISO container storage site. In a second phase there is expansion space available for another three tank compounds, representing 60,000 m3 of tank storage capacity.

Noord Natie Terminals too, announced a major expansion. Currently, the company has 240 tanks and a total capacity of 350,000 m3. However, an additional expansion up to 90,000 m3 will be possible in the future. Six hectares of new land adjacent to the existing terminal will accommodate 32 tanks of 1,250 m3, 2,500 m3 and 5,000 m3. This will add an additional 500 m of berth length with two new manifolds to the terminal.

As well as the new tank pits, two loading stations with six loading bays for trucks, two of which can be used for rail cars, will also be constructed.

In August 2014, Borealis, a leading provider in the fields of polyolefins, base chemicals and fertilisers, announced that it has signed an agreement with DuPont Holding Netherlands B.V. to purchase the company's 67% shareholding in Speciality Polymers Antwerp N.V. The acquisition showed the company's strategy to grow its polyolefin business and further strengthened Antwerp's position in this specialist business.

Additionally in 2014, the first LNG tank station opened for trucks at ADPO, Separately, by 2016, it should be possible for barges in the port to bunker with LNG from a fixed station.

Also 3M announced a new investment, a new solvent-free glue production line in Zwijndrecht (Antwerp). The project has a EUR 9.6m price tag and is part of EUR 20m investment plan. At the site, 3M hosts both research and production activities, the latter mainly involving high-quality rubber and glue. Due to a shortage of capacity in the United States — but also because of the proximity of scientific knowledge and expertise — 3M decided on Zwijndrecht as the location for its new solvent-free production line. The new line is expected to produce "several thousand tonnes" every year.

For more information, please visit: www.portofantwerp.com

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"Oorlog onder Water".

B O O K R E V I E W door : Frank NEYTS

Naar aanleiding van de viering van de Grote Oorlog, het begin van de Eerste Wereldoorlog, zijn het aantal geplande evenementen, herdenkingen en gepubliceerde boeken rond het onderwerp gewoon niet meer bij te houden. En dit niet uitsluitend in Vlaanderen! Deze overvloed aan informatie concentreert zich zowat uitsluitend op gebeurtenissen en verschrikkingen die zich voordeden in de frontstreek. Weinig is bekend dat de Duitse bezetter in Wereld Oorlog I de haven van Brugge uitbouwde tot de belangrijkste duikbootbasis ter wereld, van waaruit de U-boten, via de havens van Zeebrugge en Oostende, zee kozen voor een niets ontziende onderwateroorlog tegen de geallieerde scheepvaart. In de Eerste Wereldoorlog brachten U-boten die vanuit Brugge opereerden meer van 2.500 geallieerde schepen tot zinken. In de lente van 1918 waren er vanuit Brugge niet minder dan 93 U-boten actief. De basis werd 'gerund' door liefst 5.000 Duitse troepen. De duikbootaanvallen vanuit Brugge vormden een belangrijke bedreiging voor de geallieerden. De Britse Marine schrok er dan ook niet voor terug om op 23 april 1918 de havens van Zeebrugge en Oostende aan te vallen om de Duitser de toegang tot zee vanuit Brugge af te snijden. De 'Battle of Zeebrugge' staat in de geschiedenis van de Royal Navy tot op vandaag nog steeds aangeschreven als één van haar meest heroïsche wapenfeiten. Tomas Termote, maritiem archeoloog, stelde die minder gekende wapenfeiten te boek. '**Oorlog onder Water. Unterseeboots Flotille Flandern 1915-1958**' werd een onovertroffen werk, dat zeker vertaling in het Engels verdient! 'Oorlog onder Water' geeft de lezer het volledige verhaal: van een overzicht van de infrastructuur en bemanningen, tot het leven aan boord van de U-boten, hun belang in de oorlog en de zware verliezen aan beide kanten. Voor het eerst wordt ingezoomd op dit boeiende stuk oorlogsgeschiedenis. Een dikke aanrader! '**Oorlog onder Water'** (ISBN 978 90 5908 526 8) werd door Davidsfonds Uitgeverij als hardback uitgegeven. Het boek telt 352 pagina's en is rijkelijk geïllustreerd, vaak met nooit eerder gezien beeldmateriaal. Het boek kost 37,50 euro en is verkrijgbaar via de boekhandel.

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Contango and tankers

Like an invitation to a dance, the word contango may have some people flustered, but for tanker owners this market phenomenon is a serious matter of securing revenue for their vessels, while ensuring that they remain safe when employing them as floating storage facilities. The Association is grateful to Messrs. London Offshore Consultants and Andrew Moore & Associates for providing input towards this advisory.

Contango

This word encapsulates a specific situation on the commodity markets where the future

price of a given commodity is above the expected future spot price. It arises where buyers are willing to pay more for a commodity, in the future, than the actual expected price. A driving factor may be due to a willingness to pay a premium for the commodity in the future, without incurring storage and transportation costs of buying it today.

The fall in oil prices, contango and the impact on the tanker market

The last time oil prices fell dramatically was during the financial crisis of 2008, when it dropped from a record USD145 per barrel to under USD40. While this led to a lot of financial losses, enterprising parties seized the opportunity to buy cheap oil and given the shortage of land based storage they used tankers as floating tank farms. When the price rebounded, the oil was likely sold at a profit.Oil prices fell significantly at the end of last year and at present they remain very low. The impact of this is felt across the world particularly when a number of oil economies as well as development projects work towards a price of USD100. The current price of below USD50 per barrel puts them under pressure while providing a boost to intensive oil consumers.Again this market situation has given rise to contango, and again this has meant that tankers found themselves in great demand towards the end of last year. At first this was due to the rush to buy perceived cheap oil, but as shore side storages started to fill up, increasingly tankers were hired to act as floating storage facilities. Either way this was a welcome development to tanker owners and long term period charterers who saw their vessels fetch a solidly improved rate in the spot market.

Risks arising from the use of a tanker as a floating storage facility

How long will this period of low oil prices last? That is a question on which a lot of money will turn. Not least because buying and storing oil now is based on the goal of being able to sell it at a profit in the future, but that requires oil prices to rise by more than the cost of shore or ship storage and subsequent transport to the actual receiver.

The future development of oil prices is beyond the scope of this advisory, but events in the middle east will no doubt have a bearing on it. For tanker owners, however, there are a number of issues that need to be considered before fixing a vessel out as a floating storage facility. Issues include:

- the vessel may engage in multiple STS operations if cargo is sold off in parcels, this may lead to shortages given that sea conditions can make exact ullages difficult if the cargo on board is bunker fuel, there may be requests for blending on board to achieve particular specifications (this may specifically be in breach of SOLAS) the origin of the cargo needs to be carefully checked, as in some places in the world there have been issues with smuggling and sanctions breaches

- cargo quality may be affected by long term storage at sea and therefore a full understanding of the cargo specifications and the cargo properties is important: cargo may become unstable, produce sediment, have significant microbial activity, there may be settling of contaminants and sludge, separation of water content or otherwise deteriorate over time particularly with sludge / wax formation (made up of both organic and inorganic materials) may lead to very significant pumping and ROB issues tank coatings, pumps, lines and valves may be affected if cargo becomes unstable, separates or on loading contains a significant amount of aggressive materials, including any prolonged contact with hydrogen sulphide (H_2S)

- tank cleaning: long term storage of crude is likely to mean that the tanks will need more than a usual COW wash and a full tank cleaning may be necessary otherwise routine tank vapour management may become an issue, as venting may not be possible in all locations, and this is exasperated if the oil had a high (H_2S) content, say greater than 15 ppm

- temperature fluctuations can cause venting during afternoons which may be followed by a drop in pressure at night, thus necessitating the running of the TUG (Top Up Generator) to avoid air being sucked in to the tanks or risk the atmosphere reaching the explosive zone
- if the vessel will be at anchorage, suitable preparation and maintenance of the main engine and auxiliaries will be necessary
- the hull may become fouled if the vessel stays at any location for a significant amount of time, and that may occur during drifting as well as short voyages followed by lengthy stays at anchorage or drifting
- the vessel's class will need to be consulted, at least for the arrangement of periodic surveys and maintenance of certificates manning will be important, including compliance with SOLAS, SCTW and the MLC, as well as arrangements for appropriate crew rotations and shore leave vessels drifting or at outer anchorages need to maintain safe levels of fuel, water and provisions.

This is not meant to be an exhaustive list, but it should highlight some of the key issues that will need to be addressed if the planned operation as a floating storage facility is to be performed safely and successfully.

Physical and commercial loss prevention advice

Vessel suitability

The starting point for any long term storage will be an assessment of the vessel's suitability for this purpose. An important factor will be whether the vessel will be at sea or anchorage or otherwise operating. The state of the tanks will also be key, as the long term storage of cargo may put strains on the coating and lead to deterioration and corrosion.

STS operations

There are a number of issues that must be considered with any STS operation, and a full exposition goes beyond the scope of this advisory, but ensuring that it can done safely is paramount (factors include weather, sea states, fendering, the compatibility between vessels, etc.).

If many STS operations are envisaged, with cargo being parcelled out then there is an added risk of shortage issues, as it may not be easy to ensure that ullages are accurate and that only the correct amount is transferred. Paying extra attention to this issue will be important.

Smuggling and sanction breaches

An additional factor is that in some locations it has been known that smuggling may occur or that sanctions breaching activities are undertaken. Members should at all times ensure that the cargo they are taking is legitimate and fully documented. More information can be found here: Origin of cargo and Iranian oil STS.

Blending

If members are asked to engage in blending of cargo, it is important to remember that this is not permitted under SOLAS for any time the vessel is on a sea voyage. Further information on this regulation can be found here: SOLAS and blending. Blending can also be an issue for P&I cover, as a new product is created (as opposed to co-mingling the same cargo / grade from different sources), and may also pose bill of lading challenges.

It may be necessary to have a laboratory set up on the vessel with a suitable expert in attendance to ensure that repeat operations result in the desired outcome, or risk possible contamination claims.

Cargo quantity

Even if the vessel does not engage in frequent STS operations, it will be necessary to monitor the volume of the cargo on board with periodic dipping and ROB calculations.

If the cargo is of the kind that can lose significant volume over time then this must be understood as an on-going issue.

Cargo quality

While some cargo types are stable, and not easily affected by long term storage at sea, others may be very sensitive or otherwise suffer deterioration over time. The particular cargo to be laden and stored must be properly understood, as well as the time frame for the proposed storage.

Should storage exceed the safe "shelf life" of the cargo, then action may be necessary to ensure it does not deteriorate significantly or risk potentially dramatic claims from ultimate cargo receivers.

Contractual risk apportionment Owners and charterers should ensure that before fixing, the parties work out the full range of risk scenarios that come with the use of the vessel as a floating storage facility and make sure these are addressed appropriately in the final fixed charterparty That includes apportionment of risks, extra costs, hull and tank cleaning as well as insurance coverage issues, which will need to be addressed. Otherwise these are likely to be fertile ground for disputes.Failing to contract carefully can be financially devastating.

Insurance implications

Using a vessel as a long term oil storage facility may impact insurance coverages, as this may not be the trade for which she is normally insured, and indeed this operation is not like a hot or cold lay-up situation. It would be prudent consult with underwriters about the potential impact before fixing the vessel for this purpose. For vessel specific enquiries, members are asked to contact their usual Skuld business unit.
Source: SKULD

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Antwerp benefits from petrochemicals

Jan 31 2014

Illustrating the shift away from refining in Europe, Antwerp's traffic in chemical and petroleum products grew by more than 30% last year.

Antwerp said that it had gained a significant market share in the liquid bulk sector for northwestern European ports. In total, liquid bulk traffic in Antwerp rose by 31.4% to 59.5 mill tonnes over the past 12 months.

The petroleum derivatives segment, with products such as petrol, diesel, domestic heating oil and kerosene, achieved the highest growth, with 43.1 mill tonnes. Since 2000, the port

of Antwerp has recorded an enormous 213% growth in this segment, making it the largest growth port in the Antwerp-Rotterdam-Amsterdam range (ARA range) for these products.

These traffic figures are the result of investments by a number of major companies in Antwerp and also proved that the Port Authority's decision to free up space for tank storage effectively meets the market demand, the port claimed.

Belgian group Sea-Tank Terminals attracted several global energy companies and traders and expanded its storage terminal capacity. Also the substantial investments made by Antwerp Terminal Processing Company (ATPC – part of VTTI terminal group) in the expansion of its tank storage, combined with the deepening of the river by the port authority, contributed to the growth in this segment.

Shipments of crude oil recorded a 83.4% increase (to 4.7 mill tonnes) following the takeover and relaunch of the PetroPlus refinery under the name of IBR by Gunvor, an international energy trading group.

Various Antwerp industrial players continued to expand their production facilities, including: Total, Ferro, Kuwait Petroleum International, BP Lubes, Air Liquide and Praxair. The ExxonMobil refinery is currently examining plans for further investment in the Antwerp plant.

Antwerp is also an important international trade centre for lubricants and bunker fuels.

In addition, tank storage companies, such as Oiltanking Stolthaven Antwerpen, LBC, Vopak, ADPO, NoordNatie Odfjell Terminal and ITC Rubis, helped to ensure that tank storage capacity in the port increased by 151% over the past 10 years.

Antwerp currently boasts 15 tank storage terminals with a total capacity of 6.4 mill cu m and the storage companies have indicated their intention to continue to expand in the near future.

In addition, the Antwerp chemical industry is one of the major chemical clusters in the world. Companies, such as Lanxess, BASF, Ineos Oxide, FRX Polymers and Evonik Degussa, all reported significant investments in 2013.

Shipments of bulk chemical cargoes registered a jump of almost 10%, compared to the shipments seen 2012, to above 11 mill tonnes.

Inséré le 21/02/02 Nouvelles - Nieuws Enlevé le 21/03/15

New requirements to inert gas systems on chemical tankers

In 2004 in-tank explosions resulted in the total loss of two chemical tankers. The requirements for inerting of cargo tanks did not apply to these vessels. In recent years there have been a significant number of similar explosions and fires on board tankers. The majority of these explosions appear to take place in connection with tank washing and gas-freeing operations.

As a consequence of the accidents in 2004, the inert gas requirements for oil and chemical tankers have now been amended.

- The amendments apply to oil and chemical tankers constructed on or after 1st January 2016.
- The amendments do not have retro-active effect for existing tankers constructed before 1st January 2016.

■ The amendments have been included in SOLAS Ch.II-2, the IBC code and the FSS code Ch.15.
■ The amendments will have the following effect:

General for all tankers:

The deadweight limit for inert gas requirements has been lowered from 20 000 tonnes deadweight to 8000 tonnes deadweight. Therefore, all oil and chemical tankers of 8000 dwt and above must be provided with a fixed inert gas system.The requirements also apply to gas carriers carrying flammable oils as well as flammable chemicals listed in Ch.17 or 18 of the IBC code. The oxygen limit for inert gas supplied to cargo tanks has been changed from 8% to 5%. This may affect the way in which the oxygen detection alarm is set.

Specific requirements applicable for chemical tankers: The exemption for existing chemical tankers having cargo tank volumes' not exceeding 3000 m3 and having tank cleaning machine throughput not exceeding 17.5 m3/h per nozzle and total throughput not exceeding 110 m3/h per tank, does not apply to new chemical tankers constructed on or after 1st January 2016. For tankers that are arranged with an exhaust gas based inert gas system, inerting must be carried out during loading, on voyage, during unloading, tank cleaning and for purging prior to gas freeing with air.

For chemical tankers, it is however accepted that inert gas need only be applied before commencing the unloading. It is understood that this exemption clause was accepted as a matter of convenience to reduce cargo handling time (as pre-loading procedures for chemical tankers always require in-tank cargo surveys). A very important condition for the above alternative is that nitrogen is the only accepted inert gas medium. Although nitrogen does not need to be applied until before commencing the unloading, it is still required to be applied during discharging, during tank cleaning and for purging prior to gas freeing with air. The application of inert gas before commencing the unloading can be performed through the normal inert gas padding connections in way of P/V-valve risers. The previous exemption for chemical tankers related to inert gas capacity still exists. When carrying flammable chemicals it is therefore acceptable that the unloading rate is reduced to 80% of the inert gas system capacity. Note also that the operational requirements to gas freeing in the IBC code have been amended in line with the requirements for oil tankers. In situations where chemical tankers are required to use inert gas, the cargo tanks shall be purged with inert gas, using approved gas-freeing arrangements, until the concentration of flammable vapors in the cargo tanks has been reduced to less than 2% by volume. As the normal inert gas padding connections in way of P/V-valve risers are not suitable for purging cargo tanks, the use of inert gas for purging before gas freeing with air will normally have to be carried out via the cargo system. Lastly, for chemical tankers that are required to be inerted and that are carrying products containing an oxygen-dependent inhibitor, the use of inert gas shall not take place before loading or during the voyage. Instead it shall be applied before commencing the unloading procedure. The minimum level of oxygen required in the vapour space of the tank for the inhibitor to be effective shall be specified in the Certificate of Protection provided by the cargo manufacturer. This information should be taken into account in the operation of the inert gas system to ensure the oxygen level does not fall below the level indicated on the certificate. Consequences for ship owners building new chemical tankers:

Owners must ensure the following:

1. It must be specified whether the cargo discharge rate for chemicals and oil shall be the same or whether a reduced cargo discharging rate for flammable chemicals is acceptable.

If a reduced cargo discharge rate is acceptable, the minimum discharge rate should be specified.

2. The use of exhaust based inert gas is a known source of contamination. In order to reduce cargo handling time at terminals, it is proposed that owners specify that inerting shall take place before commencement of unloading.

This implies that nitrogen is the only acceptable inert gas medium.

3. If it is specified that inert gas must be used before commencing the unloading, it is our opinion that, a fixed nitrogen generator system is required to be provided on board. Certain other parties have indicated differently and may consider nitrogen bottles and shore supply of nitrogen to be sufficient for meeting the new requirements.

This will however give significant operational restrictions as follows:

■ It is a condition for the operation of the ship that it only performs cargo handling at terminals where nitrogen is available as shore supply.

■ The ships must perform purging before gas freeing with air using nitrogen supply from terminals. Considering possible port and terminal restrictions on tank cleaning and gas freeingalongside, this is not a realistic option.

■ The alternative of using nitrogen bottles for the above purpose is also considered to be highly unrealistic, as it would require a very significant number of nitrogen bottles on board. Hence, nitrogen bottles are not a feasible alternative for inerting during tank cleaning and for purging before gas freeing with air. It is therefore proposed that chemical tanker owners specify that the inert gas system on board shall be of nitrogen generator type with capacity of 125% of the unloading rate.

Source: DNV GL

Inséré le 23/02/02 HISTORIEK HISTORIQUE Enlevé le 23/03/15

Mille ans de navigation (2ème partie)

4. Le port de Bruxelles

Le canal traversait l'enceinte de la ville en constituant une nouvelle porte, s'ajoutant aux sept portes déjà existantes : la porte aux Remparts, plus tard porte du Rivage.

Le 21 juillet 1562, on entama la construction d'un bâtiment fortifié sur la rive Est, en estimant qu'une simple poterne suffirait sur l'autre rive; c'est par cette issue, la porte des Vaches, que Guillaume le Taciturne quitta subrepticement Bruxelles pour échapper aux Espagnols.

En 1576, on se résolut à édifier un bâtiment plus complet pour remplacer la porte des Vaches qui fut condamnée et un pont fut jeté audessus du canal.

La grave inondation de 1643 qui ravagea la basse-ville endommagea la ' porte du Rivage et elle fut reconstruite sur les plans de Bernard Raessens, contrôleur du canal, plans que Rubens lui-même aurait retouchés, selon une tradition invérifiable. Il est néanmoins certain que la nouvelle porte du Rivage, constituée par un porche à colonnade et surmonté d'un fronton triangulaire se différenciait agréablement des autres portes de l'enceinte, austères et guerrières.

Le site fut illustré et décrit plus d'une fois par les dessinateurs et par les voyageurs qui s'arrêtaient à Bruxelles. En effet, la porte du Rivage était un des endroits les plus animés de la basse ville.

Du pont qui surplombait le canal, la vue s'étendait loin en direction de Laeken et Vilvorde, le long des berges rectilignes déjà bordées d'arbres. A gauche, le fossé bordant l'enceinte fortifiée s'incurvait vers le Sud et au delà s'étendaient les côteaux boisés qui de Molenbeek, montaient vers le village de Koekelberg. Vers la droite, les douves se prolongent au delà de la silhouette massive de la porte de Laeken, jusqu'au bas de la pente qui monte vers la porte de Cologne (actuellement, le Boulevard du Jardin Botanique et la porte de Schaerbeek). Enfin, en se retournant, c'est le coup d'oeil sur le bassin qui pénètre en ville, sur les innombrables mâtures des bateaux accostés le long des quais, dominés enfin par le tour de l'église Sainte-Catherine.

En 1704, on créa sur la rive Est du canal, l'Allée Verte, bordée de deux rangées d'arbres, qui ne tarda pas à devenir l'avenue élégante de la ville, où il faisait bien de venir faire admirer le nouveau carrosse ou le fringant attelage récemment acquis. Sur l'autre rive du canal fut ouverte la chaussée qui menait vers Vilvorde et plus loin vers Willebroek et Anvers.

Cent ans plus tard, Napoléon décida de démanteler les remparts qui subsistaient et de les remplacer par les boulevards circulaires. La Porte du Rivage fut démolie et deux bâtiments, semblables à ceux qui existent encore porte de Ninove, furent construits à I' usage de l'octroi, entre la place de l'Yzer et la place Sainctelette actuelles.

Le premier bassin qui s'offrait aux bateaux entrant à Bruxelles fut réalisé dès 1561 sur des terrains marécageux appartenant au Grand Béguinage. Il resta pratiquement dans son état initial jusqu'en 1830, date à laquelle il fut considérablement agrandi. En 1836, on construisit sur le côté Ouest le Grand Entrepôt destiné à remplacer celui érigé à l'époque de Marie-Thérèse à l'extrémité du Bassin-au-Foin. Le Grand Bassin fut comblé en 1910.

Le boulevard qui se détache actuellement de la Place de l'Yzer vers le centre de la ville, marque l'emplacement de l'ancien bassin et porte le nom de Quai du Commerce. Le Grand Entrepôt couvrait l'espace où se croisent le Boulevard d'Ypres et le Boulevard de Dixmude, non loin de la Caserne du Petit Château.

Le Bassin aux Barques prolongeait le bassin d'entrée et fut construit également en 1561. Comme les endroits de débarquement se spécialisèrent au cours des années, les quais furent affectés à des marchandises déterminées. Ainsi le côté Est du Bassin des Barques reçut la chaux et le charbon et le côté Ouest les bois destinés à la construction.

L'esplanade gazonnée qui fait suite au Quai du Commerce, s'étand aujourd'hui entre deux avenues qui ont gardé les appellations d'origine : Quai à la Chaux et Quai à la Houille d'un côté. Quai au Bois de Construction de l'autre.

Quelques rares maisons des XVIIe et XVIIIe siècles se détachent de l'alignement d'immeubles commerciaux sans style.

105. Le Bassin des Barques par L. A. E. Jacobs (Musée Communal de Bruxelles).
105. Het sloepen dok door L. A. E. Jacobs (Stedelijke Museum, Brussel)

Le Marché-aux-Porcs marquait l'extrémité du Bassin des Barques et un pont séparait celui-ci du Bassin des Marchands. C'était primitivement là que se concentra le commerce au cours des années qui suivirent l'ouverture du canal et on y construisit rapidement « het Veerhuys », la Maison des Barques d'où partaient les services réguliers de bateaux non seulement vers Vilvorde, Anvers et la Flandre, mais aussi vers la Zélande, Rotterdam et Amsterdam.

Les services des barques, dès l'origine, étaient remarquablement organisés. Ainsi, dès le XVIIe siècle, les relations avec Anvers étaient-elles journellement assurée par un « heu », voilier aménagé pour le transport des passagers. A la fin du XVIIIe siècle, en vue de réduire la durée du parcours et d'en augmenter la sécurité, les « heus » s'arrêtaient à Boom, où les passagers débarquaient pour poursuivre leur route en voiture vers Anvers par la route spécialement améliorée dans ce but.

Des documents conservés aux Archives de la Ville font état, en 1702, des réclamations des voyageurs débarqués au Veerhuys, la nuit ou par mauvais temps, sans possibilité de transport jusqu'à leurs hôtels. Un certain Léonard Lannoy obtint de la Ville la concession d'un service de voitures pour conduire les voyageurs à destination.

En face de la Maison des Barques qui était élégamment surmontée d'un clocheton et d'une horloge, on construisit en 1680 la Maison du Cheval Marin qui existe encore de nos jours, remarquablement restaurée.

Au bassin des Marchands, on déchargeait principalement des briques et du bois à brûler, mais aussi des denrées périssables, dont le poisson qui alimentait le marché situé non loin de là, le long de la Senne. En 1882, lorsqu'on combla partiellement le bassin des Marchands, c'est le Nouveau Marché-aux-Poissons qui y fut construit et ce furent dès lors les Mosselbakken" (bateaux à moules) qui occupèrent ce qui restait du basin.

En 1905, on acheva de combler le basin et le Marché-aux-Poissons subsista jusqu'en 1952. De nos jours, des restaurants réputés et des écaillers rappellent l'ancienne vocation de l'endroit, mieux que les stations de métro et d'autobus qui y sont implantées.

A l'emplacement de ce qui allait devenir le bassin Sainte-Catherine existait un fossé qui servait de défense à la première enceinte, dont subsistait la Tour Noire. Il était facile de le

transformer en bassin et l'opération fut réalisée en 1564. Un pont fut construit en 1568 sur la jonction entre le Bassin des Marchands et le nouveau bassin et nommé le pont de Bois ou le Pont Saint-Michel.

L'extrémité Est du bassin Sainte-Catherine se trouvait à une portée de flèche de l'endroit où se situait le « portus » primitif de Bruxelles (plus tard les Halles Centrales). Le site était encombré de vieilles bâtisses croulantes que la Ville fit démolir pour ouvrir une communication vers la rue de Laeken. C'est à l'emplacement ainsi dégagé — l'actuelle place du Samedi — elle décida d'élever la nouvelle grue.

Une grue existait déjà depuis longtemps à l'endroit où avait été établi l'antique « Poilus » du Xle siècle (les anciennes Halles Centrales, le Parking 58 actuel). Une autre grue avait été érigée en 1559 sur le quai du Bassin des Marchands, à hauteur de la rue du Chien Marin, mais elle faillit à sa tâche, en 1573, et elle dut être remplacée par celle placée au bassin Sainte-Catherine.

Le type des grues utilisées jadis a peu évolué au cours des siècles, dès le XVe siècle, on les retrouve illustrées dans les tableaux des Maîtres Flamands et le principe en sera conservé jusqu'au XIXe siècle.

C'est essentiellement une massive construction en bois, avec une flèche fixe. Deux énormes roues de chaque côté, sont actionnées par un ou deux hommes, marchant à l'intérieur, comme dans une cage à écureuil, pour hisser les charges. L'ensemble pivote sur un lourd axe vertical, au moyen de longues barres poussées par les ouvriers.

L'achèvement du bassin Sainte-Catherine ne se fit que lentement et les derniers crédits pour la construction des murs de quai ne furent votés qu'en 1614.

Cet endroit du port de Bruxelles — dont il existe de nombreux tableaux et gravures — était l'un des plus animés de la ville dominé par la Tour Noire d'un côté et par le clocher de l'Eglise Sainte-Catherine de l'autre. Pendant plus de deux siècles, les bateaux s'y amarrèrent pour être déchargés par le « Krane », la grande grue en bois et les marchandises les plus diverses s'entassèrent sur les quais en attendant les longs chariots qui les enlèveraient. Le bassin fut comblé en 1850. L'actuelle église Sainte-Catherine, érigée par l'architecte Poelaert, en 1854, et le Marché qui prolonge le parvis jusqu'à la rue de Flandre, marquent l'endroit du vieux bassin disparu.

La navigation sur le canal avait pris un tel essor que dès 1639, la ville décida d'étendre les installations portuaires existantes. Elle porta son choix sur des prairies appartenant au Grand Béguinage et un an plus tard, on entama le creusement d'un long bassin qui s'ouvrait sur le côté droit du bassin aux Barques.

Le nouveau Bassin au Foin modifia considérablement la physionomie du quartier qui n'était auparavant que prairies et marécages. Le long des quais de pierre furent érigées très rapidement de belles constructions et les deux rives du bassin devinrent très animées.

Le quartier des quais se transforma peu à peu en quartier mondain. Signalons que c'est sur le côté droit du bassin que s'ouvrit en 1682 l'Académie de Musique où l'on joua pour la première fois l'opéra Italien. Ce théâtre ne connut qu'une brève existence et il ferma ses portes en 1698 quand fut construit le Théâtre de la Monnaie par les soins de Jean-Paul Bombarda.

L'extrémité du Bassin au Foin, proche de la rue de Laeken bordait une place où se tenait un marché aux bestiaux. En 1779, un an avant sa mort, Charles de Lorraine approuva les conclusions d'un rapport exposant la nécessité d'ériger un magasin de transit ou entrepôt, dont l'architecte Nivoy dressa les plans.

C'était un bâtiment fort simple, bâti sur pilotis, dont la façade principale tournée vers le bassin était surmontée par un fronton triangulaire où l'on pouvait lire des inscriptions latines propres à stimuler les initiatives des marchands qui fréquentaient l'entrepôt.

L'activité portuaire se développait de plus en plus, mais restait limitée néanmoins aux opérations de transit du commerce national, l'Escaut demeurant fermé depuis 1648. C'est pourtant au Bassin au Foin qu'accosta le 3 mars 1780 un trois-mats français en provenance de Nantes avec un chargement de 336 barriques de vin : il avait évité le blocus de l'Escaut en passant par Ostende et Gand.

La seconde grue de Bruxelles avait été construite à proximité de l'Entrepôt. Plus simple que le « Krane » du bassin Sainte-Catherine, c'était néanmoins une robuste grue à perche, dotée de moufles imposants, qui était populairement appelée « de Wippe ».

Un nouvel entrepôt ayant été construit en 1846 au Quai du Commerce, l'ancien bâtiment fut désaffecté et converti en dépôt d'artillerie et du génie. Un trophée militaire et le lion belge remplacèrent les inscriptions latines dans le fronton de la façade principale. En 1887, l'armée abandonna les lieux et le Théâtre Flamand s'y installa après avoir radicalement transformé l'immeuble. En effet, la façade principale fut érigée à front de la rue de Laeken et celle de l'arrière demeura telle qu'elle est actuellement, écrasée par la haute masse du théâtre.

Le Bassin au Foin fut comblé en 1908. L'espace, qui accueillit jusqu'il y a peu le marché matinal quotidien, est aujourd'hui devenu un parking. Mais le fronton triangulaire du premier entrepôt de Bruxelles est toujours visible au fond de ce qu'était le bassin. Le Quai-au-foin et le Quai-aux-pierres-detaille, qui le bordaient, conservent encore quelques façades intéressantes et y subsistent encore deux ou trois maisons qui, au XVI le siècle, servaient de magasins ou « packhuyzen » aux négociants bruxellois.

La description du vieux port de Bruxelles ne peut omettre d'évoquer un bassin affecté à un passage un peu particulier, le « Mestbak » qui fut utilisé dès la fin du XVIe siècle. Situé à l'entrée du Port à droite dès le passage de la porte du Rivage, il recevait les bateaux destinés à recevoir toutes les immondices collectées dans la ville.

Ce service de voirie, naturellement rudimentaire, existait déjà, car on trouvait déjà derrière l'église des Augustins, à l'actuelle Place de Brouckère, un déversoir, un cloaque nommé en flamand « de Bruyt ». C'est par suite d'une traduction erronée que subsiste encore de nos jours à cet endroit la Rue de la Fiancée, ou « Bruydstraat ». Il suffit parfois d'une lettre...

Toutes les boues et autres immondices étaient ainsi chargées dans des barques en vue de leur évacuation hors ville. Une grosse part était ainsi acheminée par eau vers la Flandre pour être utilisée comme fumure naturelle des champs. La portion du quai aux Barques proche du « Mestbak » fut appelée Quai au Fumier.

En 1639, le « Mestbak » fut agrandi et il conserva sa fonction jusqu'en 1863. A cette date, la Ferme des Boues construisit un bassin beaucoup plus vaste, toujours pour le même usage, qui ne fut comblé qu'en 1911.

5. La percée vers le Sud

Si la Senne navigable et ensuite le Canal de Willebroeck avaient assuré les communications avec le Nord, les relations avec le Hainaut étaient restées précaires.

Au Sud de Bruxelles, la Senne ne se prêtait pas à la navigation et seules quelques mauvaises routes autorisaient un trafic de marchandises, lent et souvent aléatoire.

Deux ans après l'édit de Philippe le Bon autorisant de canaliser la Senne vers la Dyle, le Duc de Bourgogne promulgua un édit daté du 6 novembre 1436, prévoyant l'approfondissement du lit de la rivière jusqu'à Hal, la rectification de son cours et la construction de portes-écluses la divisant en biefs. Mais les événements politiques de l'époque, et les difficultés financières ne permirent pas d'entamer effectivement des travaux.

Charles-Quint s'intéressa à la voie fluviale et en même temp qu'il approuva l'édit de 1477 de Marie de Bourgogne relatif à un canal de Bruxelles au Rupel, il autorisa le creusement d'un canal qui rejoindrait la Sambre.

C'était un projet trop ambitieux pour la technique de l'époque. En effet, e principal obstacle était le passage de la ligne de crête séparant le bassin de 'Escaut où coulait la Senne de celui de la Meuse parcouru par la Sambre. Le)rincipe des écluses modernes venait à peine d'être défini et celui du anal à bief de partage était encore inexistant. Les études entamées furent abandonnées.

Cependant, l'utilisation du « charbon de terre » extrait dans le Hainaut ievenait de plus en plus répandue, mais son transport ne pouvait se faire de açon économique que par la voie d'eau. Les villes du Nord, Bruxelles, \nvers, Louvain et Malines insistèrent auprès de Philippe II pour que l'étude lu canal soit reprise, mais très rapidement, le dossier fut de nouveau enfoui Jans les archives.

Ici prend place une autre tentative qui bien que différente, se situant sur un plan géographique: : elle ne marque pas moins l'importance à la navigation intérieure.

En 1609, après la prise d'Ostende, les Archiducs Albert et Isabelle ont signé avec les Provinces-Unies du Nord une trève de douze ans et à son terme en 1621, les Hollandais ont refusé de la proroger.

Le conflit ne reprend pas pour autant, mais la guerre froide s'établit, les forts hollandais interdisent pratiquement le trafic sur l'Escaut et ne parviennent plus à Anvers que de rares bateaux.

L'ingénieur et mathématicien Michel Van Langren, que nous avons déjà vu à l'oeuvre à Bruxelles, propose un plan qui ne vise pas moins que la jonction de la Meuse au Rhin. Le projet est vigoureusement soutenu par Rubens, peintre mais aussi diplomate de l'Archiduchesse Isabelle.

Il s'agirait d'un canal à creuser dans le Limbourg, la distance séparant la Meuse au Rhin n'y étant que de cinq à six lieues : de Venloo, il rejoindrait le cours de la rivière Niers à Geldern et attendrait le Rhin à Rheinberg, au sud de Wesel, des écluses sont prévues pour franchir la ligne de crête et racheter la différence d'altitude entre le Rhin et la Meuse.

L'entreprise porte le nom de « Fossa Eugenia » en l'honneur de l'Archiduchesse dont l'un des prénoms est Eugénie. Les chantiers sont ouverts non loin de la frontière qui sépare les territoires espagnols de ceux des Provinces-Unies. La réaction de ces dernières ne se fait pas attendre et des raids sont lancés pour désorganiser les travaux. Les forces armées de l'Archiduchesse interviennent et le Général de Bergh inflige une cuisante défaite aux Hollandais.

Mais comme c'est souvent le cas en politique, la conclusion ne sera pas tirée sur le terrain. En effet, le Cardinal de Richelieu, qui maintient la France en lutte ouverte avec l'Espagne, soutient ouvertement la Hollande calviniste et en 1630 s'engage à lui offrir un subside de sept millions de livres, à condition qu'elle ne signe aucune trêve ni accord avec les Pays-Bas espagnols.

L'infante Isabelle préfère éviter un élargissement du conflit, localisé jusqu'alors au Limbourg, autour des chantiers et ceux-ci sont abandonnés. La jonction Meuse-Rhin a fait long feu.

En 1656, les autorités se penchent de nouveau sur le projet de canal vers le Sud. Cette fois encore ce sont les conséquences de la politique internationale qui les motivent : depuis 1648, le Traité de Munster, qui a mis fin à la guerre de Trente Ans, a fermé définitivement l'Escaut et Anvers n'a plus d'accès à la mer.

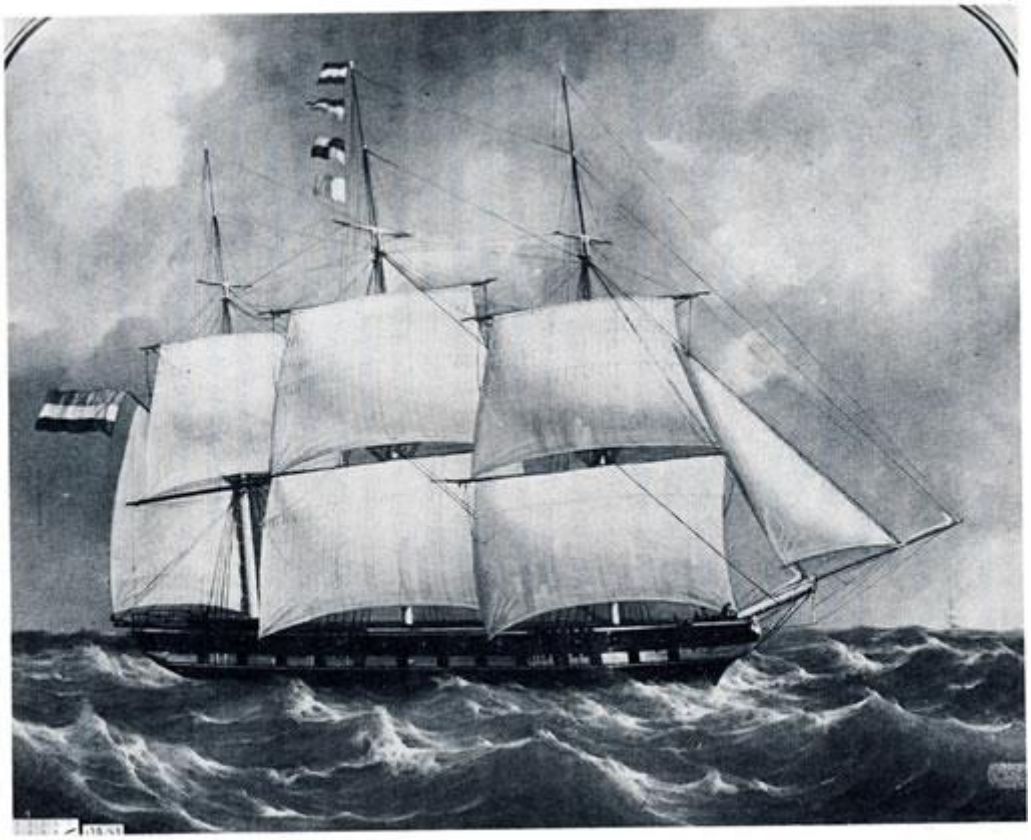
Deux projets furent déposés en 1660 : l'un faisait passer le canal par Hal, l'autre par Charleroi. Le premier projet fut adopté et en 1662, la Chambre des Comptes établit un

plan de financement. Mais une fois de plus, rien n'aboutit : les événements politiques européens détournèrent les soucis du gouvernement espagnol qui se désintéressa de cette affaire purement locale à ses yeux.

Plus de trente ans s'écoulèrent avant que le Gouverneur des Pays-Bas espagnols n'y porte à nouveau son attention, la situation économique exige plus que jamais la création d'une voie d'eau et le 8 avril 1698 Maximilien-Emmanuel, Electeur de Bavière, délivre un octroi pour la construction d'un canal passant par Hal, Nivelles et Fleurus , par la Sambre, approfondie pour la rendre navigable, le trafic atteindra la Meuse à Namur, puis le Rhin et enfin la mer.

Le projet avait été poussé dans ses moindres détails. Le nouveau canal s'amorcerait par un bassin sis entre le Vieux-Marché et la porte d'Anderlecht, bassin bordé par un vaste marché décoré de fontaines. Un bâtiment à galeries y serait construit pour servir de bourse à l'usage des commerçants et des armateurs.

Les travaux seraient inaugurés par l'Electeur de Bavière, en personne et on confectionna à son intention une superbe pelle en argent. C'était un véritable chef-d'oeuvre d'orfèvrerie : le Roi d'Espagne, Charles II, y apparaissait en Mercure, désignant Ostende à un vaisseau naviguant sur une mer agitée. Au verso, les écussons des neuf Nations de Bruxelles surmontaient Neptune approchant de la ville. Mais la pelle d'argent ne fut jamais utilisée..



111. Voilier belge battant pavillon hollandais (Musée de la Marine, Paris).
111. Belgisch zeilschip onder Hollandse vlag (Musée de la Marine, Paris).

En effet, l'octroi du 8 avril 1698 et les minutieux projets auraient dù rester confidentiels, car nos voisins du Nord, la jeune République des Provinces Unies, marquait une opposition irréductible à toute tentative de tourner le blocus de l'Escaut par la construction d'une autre voie. Mais le secret fut vite éventé et les marchands bruxellois apprirent que leurs collègues et concurrents hollandais avaient adressé une plainte à ce sujet aux Etats-

Généraux à La Haye et ceux-ci, estimant l'affaire importante, y consacrèrent une assemblée pleinière qui conclut à une tentative de violation du. Traité de Munster.

Dès lors, l'affaire fut menée d'une façon aussi discrète qu'efficace. En mai 1699, un yacht hollandais s'amarra près du Marché-aux-Grains et y resta près de deux mois : il amenait plusieurs députés des Etats-Généraux qui exposèrent leurs griefs à l'Electeur de Bavière et aux membres du Gouvernement. Les conversations demeurèrent secrètes et le Magistrat de Bruxelles fut tenu à l'écart. On remarqua néanmoins que de riches étoffes et des draps de haute qualité, ainsi que des pièces d'orfèvrerie furent déchargées pour prendre le chemin de la Cour.

Lorsque le bateau hollandais quitta les eaux bruxelloises, le volumineux dossier contenant le projet du canal vers la Sambre rejoignit les archives et y demeura définitivement.

L'entreprise refit surface sous le régime français.

Le Premier Consul avait élaboré un programme général d'amélioration des voies navigables, incorporant les travaux à effectuer dans le Département de la Dyle et spécialement ceux du canal de Charleroi.

L'ingénieur des Ponts et Chaussées Vionnais, par décret du 4 mai 1803, fut officiellement chargé de réaliser les travaux suivant un trace passant par Hal, Ronquières, Seneffe et, après la crête de partage, par la vallée du Piéton jusqu'à la Sambre.

L'exécution du projet nécessitait des apports de fonds importants, mais les guerres de l'Empire absorbaient toutes les ressources financières et l'entreprise fut remise à des temps meilleurs.

C'est finalement en 1823, sous le Régime Hollandais, que fut prise la décision d'exécuter la liaison Nord-Sud. Le roi Guillaume qui portait un vif intérêt aux questions économiques, chargea l'ingénieur Vifquain de l'étude définitive.

Le passage de la ligne de crète Escaut-Meuse constituait la difficulté majeure à surmonter. Vifquain établit un plan comportant 44 écluses sur le versant Nord et 11 écluses sur le versant Sud, séparé par un tunnel au plateau de Seneffe. Mais les écluses étaient de faibles dimensions et n'admettaient que des bateaux de 70 tonnes, dits « baquets de Charleroi ».

L'adjudication fut faite en 1825, les travaux furent entamés en 1827 et le canal fut inauguré le 22 septembre 1832.

Mais on réalisa rapidement l'erreur commise en limitant le trafic aux bateaux de 70 tonnes, ce qui impliquait des transbordements avec les bateaux de la Sambre dont la capacité de charge était triple.

Le Gouvernement, avec la sage lenteur qui caractérise les gouvernements en général, se pencha sur le problème. Un premier tronçon avait été aménagé au gabarit de 300 tonnes dès 1857 sur le versant Sud. Mais il fallu attendre 1863 pour que des études soient entreprises afin de résoudre la mise à grande section du bief de passage et du versant Nord.

Une loi du 4 août 1879 décida enfin l'élargissement du canal sur toute sa longueur et les travaux furent entamés. En 1914, lors de l'invasion allemande, ils n'étaient pas encore terminés entre Clabecq et Bruxelles. Ce ne fut qu'en 1934 que le trafic fut ouvert, sur tout le tracé, aux « spits » de 300 tonnes, mais on réalisa à cette époque que l'infrastructure du canal ne répondait déjà plus aux besoins de la navigation intérieure.

5. L'ouverture vers la mer

Le canal de Willebroeck étant incontestablement un service public, son exploitation ne fut jamais que déficitaire en raison du coût de son entretien. Ainsi, il ressort de documents des Archives de la Ville que depuis sa mise en service en 1561 jusqu'en 1694, les recettes totalisèrent 4.590.783 Florins, mais il coûta à la ville 7.684.485 Florins.

Le régime français porta un coup funeste au canal. Son administration, qui était restée

autonome, fut confondue avec celle de la Ville. Celle-ci devait faire face à des charges énormes résultant des événements politiques et n'était plus en mesure d'assurer elle-même l'entretien de la voie d'eau.

La situation se dégrada à un point tel qu'en 1800, la navigation était devenue presque impossible. Une estimation des frais de remise en état atteignait 219.300 F alors que les recettes étaient réduites à 22.565 F. Diverses réparations indispensables furent effectuées à l'aide de crédits parcimonieux. Mais néanmoins le canal était sauvé. Après la chute de l'Empire, le Gouvernement hollandais sut reconnaître l'importance économique du canal et en assumer les conséquences. Le roi Guillaume fit mettre à l'étude, par l'ingénieur du Waterstaat Teichman, un projet consistant à détourner le tracé à partir de Thisselt directement vers l'Escaut, peu en amont de l'ambouchure du Rupel, mais ce plan dut être abandonné en 1827 à cause du coût des travaux que la Ville n'aurait pu supporter.

Mais cependant, on décida d'approfondir le lit et d'élargir les écluses afin d'admettre des bateaux d'un tonnage plus important. L'écluse de Petit-Willebroeck fut complètement reconstruite.

La révolution interrompit les travaux mais ceux-ci furent repris et poursuivis sous l'impulsion de l'inspecteur général Masui.

Au siècle dernier, le canal de Willebroeck, malgré la concurrence du chemin de fer, connut un trafic de plus en plus important. Sa profondeur minimum fixée en 1701 à 6 pieds (1 ,95 m) avait été portée par draguage à 3,10 m. La largeur variait de 30 à 50 mètres et le chemin de halage, tout le long de la rive gauche, avait de 8 à 10 mètres de large. La largeur des écluses avait été portée de 6 à 7,50 mètres. Enfin, intra-muros, sept bassins accueillaient les bateaux.

Mais un facteur nouveau s'était manifesté au cours de la seconde moitié du XIXe siècle : le développement rapide de la navigation à vapeur. L'outil remarquable inauguré en 1561 et transformé en 1830 ne répondait plus aux conditions du trafic.

A l'initiative des commerçants et des industriels bruxellois, des nouveaux projets furent établis, préconisant une profondeur de 5 mètres, plus tard portée à 6,75 mètres. Tenant compte de l'importance économique du projet, il était nécessaire de sensibiliser l'opinion publique.

En 1881, fut constitué une association dénommée« Cercle des Installations Maritimes de Bruxelles », qui reprit toutes les études déjà entreprises et organisa une intense propagande en vue de trouver des appuis et des crédits. Son action porta ses fruits en 1890. le Gouvernement marqua son accord sur le projet élaboré par les ingénieurs Casse et Zone.

Cinq ans plus tard, une loi du 11 septembre 1895 autorisait la création de la Société Anonyme du Canal et des Installations Maritimes de Bruxelles. Celle-ci fut effectivement constituée pour une durée de 90 ans, par acte des notaires Van Halteren et Honnoré le 13 juin 1896. Le capital initial était souscrit par l' Etat, la Province de Brabant, la Ville de Bruxelles et dix communes de l'agglomération bruxelloise.

Sous l'administration éclairée de la nouvelle société, les projets se concrétisèrent et les travaux se poursuivirent sans discontinuer.

La profondeur du canal fut portée à 6,50 m, la largeur à la flottaison variant de 40 à 60 m. Les anciennes écluses furent remplacées par trois écluses modernes à Kappelenbos (Cappelle-au-Bois), Willebroeck et Wintam. Cette dernière écluse donnant accès au Rupel par la déviation du tracé à Willebroeck. A Bruxelles, les bassins intérieurs furent progressivement comblés, tandis que s'ouvrait un avant-port adapté aux exigences nouvelles de la navigation.

Il n'est pas dans nos intentions d'écrire ici l'histoire du canal au XXe siècle. Il a suffi de suivre jusqu'à son aboutissement l'évolution de l'idée maîtresse qui s'est maintenue durant près d'un millénaire, en dépit d'obstacles et de difficultés sans nombre : la réalisation opiniâtre de l'axe de navigation Nord-Sud qui a fait de Bruxelles ce qu'elle est actuellement : un port de mer.

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