

**Inséré le 01/04/12 – Open Forum – Enlevé le 01/05/12**

## **Triality - An operating profile**

**DNV has also considered an operating profile for a VLCC powered by a gas burning engine to try to measure the economic and environmental performance of such a vessel.**

The class society said that a good operating profile should reflect the characteristics of the crude oil market, typical VLCC sailing and operational patterns, availability of LNG for bunkering purposes, plus the effect of ECA expansion worldwide.

Research found that the dominant route was the Middle East Gulf – Asia and the number of voyages undertaken on this route is expected to increase in the coming decades.

There are currently very few LNG bunkering opportunities outside northern Europe and none are suitable for a vessel the size of a VLCC. DNV found that it was technically possible to bunker from LNG storage tanks ashore, or directly from an LNG feeder vessel, or bunker barge. The gas may be transferred via a flexible hose, or a special rigid arm.

Several LNG production and export terminals exist in the MEG, which would prove excellent sources for local LNG fuel distribution. Its distribution is now the subject of other studies worldwide and is expected to be slowly developed during the next few years.

DNV said that in its study, bunkering operations would not affect a VLCC's operation to any great extent. In addition, the introduction of ECAs will have no impact on an LNG burning VLCC, but rather a conventional VLCC, which will have to use scrubbing technology, or change to burning distillate type fuel oil.

The North Sea is already a dedicated ECA and the waters around the US coast are expected to follow suit in 2012. In addition, the Mediterranean and Singapore will probably be designated as ECAs in 2020. Other areas will follow.

To create the operating profiles, DNV chose three representative routes and weighted to make one overall Triality operating profile. The routes chosen were – MEG- East Asia (weighted by 65%), MEG- US (weighted 20%) and MEG- Europe (weighted by 15%).

The operating profile was then calculated by using information on typical port waiting times, port manoeuvring times, plus the time taken to both load and discharge cargo in each terminal. The same calculations were used for a conventional VLCC after taking ECAs into account.

DNV's research showed that a conventional VLCC would spend around 5% of its time in an ECA from 2012, increasing to 8% after 2020. In addition, the ECA emission requirements are expected to become more stringent over time. As the LNG fuelled VLCC will not be affected by an ECA, the operational performance would be enhanced, as the vessel will not have to use scrubbers, or switch fuels.

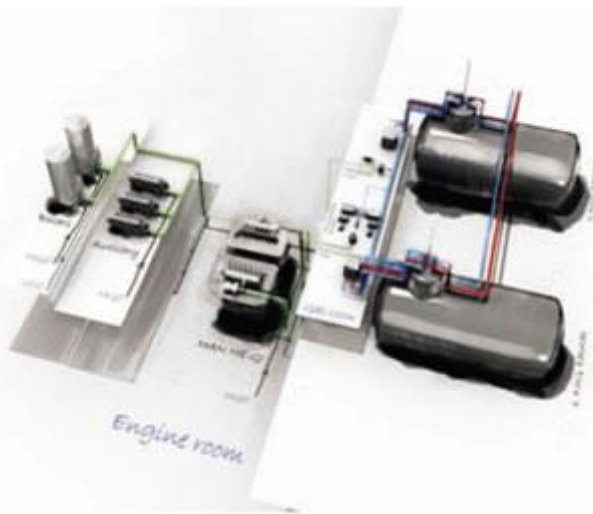
### **Triality - Making use of the LNG as fuel**

LNG has already proven viable as a vessel's fuel, especially as boil-off gas on LNGCs. However, there are more than 20 other vessels, mainly Norwegian controlled offshore support vessels and ferries, fitted with LNG burning engines. Another gas powered OSV was ordered recently by Eidesvik. DNV claims to have classed the majority of the vessels in operation.

Project manager Torill Grimstad Osberg explained that although LNG-fuelled vessels are in operation, new solutions will be necessary to power a ship the size of a VLCC. For example, the gas will be housed in two 6,750 cu m capacity LNG deck tanks, which will be enough to operate the vessel for 25,000 miles – enough for a round trip to and from the MEG and the US.

The tanks have been placed on deck due to the ample space usually available on the topside of a VLCC. They will be fitted about 10 m from the vessel's side and their external insulation is

protected by the surrounding deck houses, as is protection from a deck fire, or an impact. Their insulated pressure tanks can accumulate boil-off gas for several days without the need for a re-condensation system even if the gas from the tanks is not used.



**Gas is transferred directly from the tanks to the main propulsion units.**

This IMO type C tank is reliable and results in very simple fuel system operations since the tank's pressure can be used to transfer gas to consumers on board. All the tank connections lead from the domes on top of the tanks to a separate fuel gas room where the necessary process equipment is located. Other tank types have also now been developed for use as LNG bunker tanks – prismatic tanks can provide better space utilisation on board vessels where space is limited. However, this is not generally a

problem for a VLCC.

Another difference between small gas fuelled vessels and larger vessels, such as VLCCs, is the introduction of large two-stroke dual fuel engines. This LNG fuelled engine will soon be available from MAN Diesel. It is claimed to have the same high efficiency as more conventional two-stroke engines and will burn natural gas at 300 bar and will use normal fuel oil for ignition purposes.

Osberg said that DNV had developed two versions of a natural gas powered VLCC – one with a conventional hull form and the other with a ballast free hull design. The gas burning machinery and LNG tank installations are the same. However, the more conventional VLCC would be fitted with one main engine connected to a fixed pitch propeller, while the ballast free version will have two main engines and propellers because of the reduced draft in an unloaded condition.



**Two gas tanks are fitted on the deck ahead of the accommodation block.**

The generators have been designed for lean burn dual fuel operation and low pressure gas. These four-stroke engines maybe an option as main engines for the ballast free version, but they have not been developed for direct mechanical operation, Osberg explained. The lean burn dual fuel engines have the advantage of already meeting the strictest NOx emission requirements for vessel built after 2016, under IMO Tier III rules, but they are slightly less efficient than a two-stroke engine.

Two-stroke gas engines also directly reduce NOx emissions by about 13% compared to normal oil fuelled engines, but not down to Tier III levels. According to MAN, the necessary reduction to comply with the new rules can be achieved by using exhaust gas recirculation. In addition, the auxiliary steam boilers can burn natural gas and also have the option of burning fuel oil, or VOC.

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Low sulphur marine gas oil is used as pilot fuel in the main engines for ignition and back up fuel. This means that even when the two-stroke main engines have to switch off gas operation below 25% loads, ECA sulphur level requirements can be met. As an alternative, the machinery can also operate fully on fuel oil. Within the confines of the project, it has been assumed that the vessel will

burn gas in all of its normal operations except during low load situations. Full backup fuel oil capacity has therefore not been included, Osberg explained. The concept also has what is claimed to be a great benefit, that is the complex heavy fuel oil installations fitted on board VLCCs are omitted.

The gas supply systems for the high pressure main engines and low pressure consumers are different. LNG has a temperature of around -140 deg C at 5 bar pressure, which is about the same as maintained in the tanks. This pressure is sufficient to send liquefied gas to the high pressure pumps, delivering liquid with 300 bar pressure to the high pressure vaporiser, which in turn delivers gas with a temperature of 45 deg C to the main engines. The high pressure pumps are energy efficient and the energy consumption is comparable to that of regular high pressure pumps on diesel engines.

This low pressure system does not have any moving parts as the tank pressure pushes the liquefied gas through the low pressure vaporiser and on to the consumers.

Pressure build-up units are heat exchangers used to regulate the tank pressure. The loop is operated automatically to keep the tanks' pressure within the preset value of 5-6 bar that is needed to supply the consumers. Each tank is also fitted with a submerged pump, which can be used to transfer LNG from the tanks when they are not pressurised.

Emissions reduction gains from switching to natural gas as fuel are claimed to be 94% in SO<sub>x</sub> and particle emissions, as LNG is sulphur free. Natural gas, which is mainly made up of methane, has less carbon per energy content than oil-based fuels and therefore emits less CO<sub>2</sub> when burned. On the other hand, methane itself has a greenhouse gas potential that is 21 times higher than CO<sub>2</sub>. Four-stroke engines emit some unburned methane, called methane slip, Osberg said.

This eliminates some of the positive effects of the CO<sub>2</sub> emissions reduction. The two-stroke engines used in the project do not have a methane slip problem due to a different engine cycle. Some gas will still be released from the piping system during operation, but this is little compared to the 24% CO<sub>2</sub> reduction, due to the combustion of natural gas instead of heavy fuel oil, Osberg concluded.

## **Triality - profitability**

In its calculations, DNV claimed that Triality has a significantly smaller environmental footprint than a conventional VLCC that burns heavy fuel oil, has a ballast water treatment system and an exhaust scrubber fitted.

The question is – will the new design prove more profitable to operate?

DNV's financial analysis – investment versus fuel costs for different fuel price scenarios – showed that the concept would be cost-effective thus:

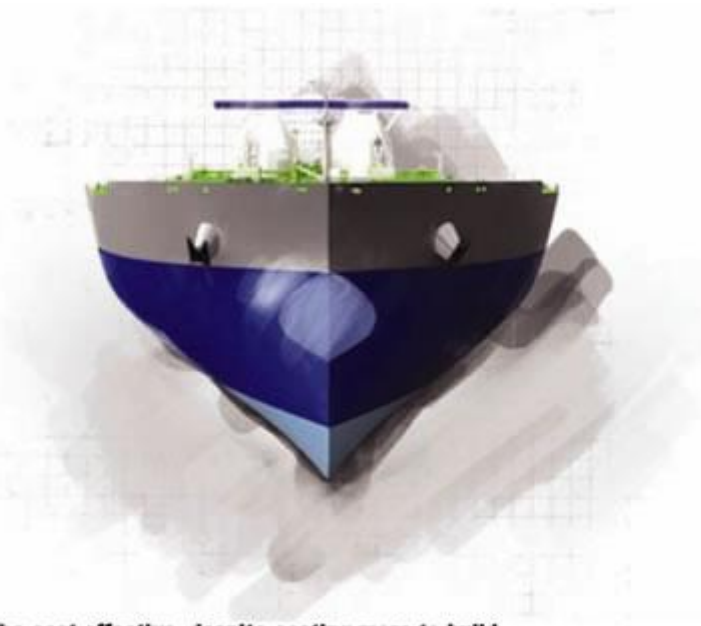
- Improves the expected current value before tax by \$24 mill in the reference fuel price scenario – this corresponds to about 20% of the investment cost in a conventional VLCC.
- Is profitable until the LNG price reaches \$15 per MMBtu in the reference oil price scenario.
- Is more profitable than a conventional VLCC except in a low oil price scenario. n Has a higher than expected present value before tax than a conventional VLCC in 92% of cases.

DNV explained that the calculated figures relate to the difference from the base case – a conventional VLCC – and a 20-year life span. Had this lifespan been longer, the figures would have been even more in favour of the Triality concept. In short, the new design does increase the initial investment by \$14 mill, but reduces the voyage costs by \$38 mill.

Given high and low oil price scenarios, the expected breakeven price is \$26 and \$6 per MMBtu respectively, DNV said. There are of course major uncertainties as to the future fuel oil price. To make a qualified decision, an investor needs to understand how the fuel price uncertainties and investment costs influence financial performance. An important factor of Triality's profitability robustness is the reduced price uncertainty stemming from the LNG long term bunker contracts.

DNV claimed that other tanker types, such as Suezmax, Aframax and smaller vessels, can also benefit from using LNG as fuel to reduce SO<sub>x</sub>, NO<sub>x</sub>, CO<sub>2</sub> and PM. Their cargo decks normally have plenty of space available for fuel tanks. For the VLCC project, DNV selected dual-fuel slow speed

two-stroke engines, which is the preferred type for larger vessels and for those operating mostly outside ECAs.



**Triality would be cost-effective, despite costing more to build.**

This type of engine has a high efficiency and is attractive from a maintenance point of view. For loads of below 25%, at present these engines can only operate on fuel oil. When operating within ECA zones, more expensive gasoil may be needed to comply with SOx emission limits.

The NOx reducing properties of medium-speed

four-stroke gas or dual-fuel engines are superior to those of the two-stroke gas/diesel engines. So, for tankers operating within ECA areas, either pure gas engines, or dual-fuel low pressure engines may be a better choice, DNV said. This is despite the fact that the installation maybe more complex and include a reduction gear.

The loss of VOC is a challenge for all tanker size ranges. The benefits of using low temperature LNG to prevent this are assumed to be similar for different size sectors. Also a challenge for all tanker types is the ballast water treatment question. There are significant investments involved in addition to the operational and maintenance costs and crew workload. Thus ballast-free vessels would be attractive.

However, DNV explained that there were practical limits on how far down the size scale can be achieved with a ballast-free vessel. Sufficient draught to avoid slamming problems and to allow manoeuvrability must be included in evaluations for ballast-free smaller tankers. There might also be the possibility of reducing ballast volumes, DNV concluded. TO

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**Inséré le 03/04/12 – Open Forum – Enlevé le 03/05/12**

## **Délimitation des espaces marins et relations internationales**

La Convention des Nations Unies sur le droit de la mer, signée à Montego Bay, en 1982, instaure entre autres un zonage des espaces maritimes. A chaque zone correspond un régime juridique relatif à l'utilisation de cet espace ainsi délimité. En dépendent les conditions d'exercice de la souveraineté de l'Etat riverain sur la zone, la navigation à l'intérieur de celle-ci et l'exploitation de ses ressources. Il existe ainsi une forte influence du droit de la mer, régissant les espaces maritimes et leur exploitation, sur le droit maritime, s'attachant aux rapports commerciaux entre les acteurs de l'expédition maritime. Les relations internationales sur ces sujets s'illustrent souvent par des conflits entre protagonistes mais évoluent peu à peu vers une régionalisation ou un bilatéralisme des relations en vue de résoudre les différends. Par ailleurs, la recrudescence récente

de la piraterie met en exergue ces questions d'exercice de la souveraineté sur le milieu marin et de mobilisation internationale.

## **Le zonage fonctionnel issu de la Convention de Montego Bay**

Les mers et océans génèrent des positionnements stratégiques et géopolitiques intenses, complexes et multiples, d'abord parce qu'ils abritent des ressources biologiques (pêcheries) et minérales offshore (hydrocarbures, minerais, nodules polymétalliques, sources chaudes) importantes mais épuisables, puis parce qu'ils constituent le premier vecteur des échanges internationaux. Historiquement, l'élément marin a toujours fait l'objet de revendications territoriales et c'est pour calmer les ardeurs de certains Etats et établir un cadre juridique unique et reconnu que la communauté internationale a entamé les (longues) discussions qui mèneront à l'adoption de la Convention de Montego Bay (CMB). Signée le 10 décembre 1982 par 117 Etats, elle est entrée en vigueur le 16 novembre 1994.

La CMB instaure un zonage de l'espace maritime et attribue à chaque zone un régime juridique particulier (1). Ce zonage est fondé sur la distance à la côte à partir des "lignes de base", dont le tracé est fortement dépendant du type de côte (2). Le régime détermine les compétences de chaque Etat sur ces zones et les droits et obligations des protagonistes (Etats, armateurs, pêcheurs, compagnies pétrolières, etc). Entre la côte et la ligne de base se trouvent les "eaux intérieures" sur lesquelles l'Etat exerce sa pleine souveraineté. A partir de la ligne de base, en allant 12 milles marins vers le large, la "mer territoriale" est un espace sur lequel l'Etat exerce également sa souveraineté mais y autorise le passage latéral, inoffensif continu et rapide et les passages d'entrée et de sortie avec les ports. Les 12 milles suivants circonscrivent la "zone contiguë" où s'exercent quatre compétences de l'Etat riverain (douane, fiscalité, santé et immigration).

La ligne des 200 milles à partir des lignes de base délimite la "zone économique exclusive" (ZEE). L'Etat riverain y exerce des droits exclusifs finalisés : des droits souverains pour l'exploration, l'exploitation la conservation et la gestion des ressources naturelles, et des droits de juridiction pour la mise en place d'installations dans le cadre de la recherche scientifique et pour la préservation du milieu. Le "plateau continental" (PC) est un espace dont la délimitation pose encore beaucoup de difficultés. Globalement, il comprend le sol et le sous-sol de l'océan au-delà de la mer territoriale sur toute l'étendue du prolongement naturel du territoire terrestre du riverain jusqu'au rebord de la marge continentale (3) ou jusqu'à 200 milles si le rebord de la marge est à une distance inférieure. L'Etat riverain y exerce des droits exclusifs pour l'exploration et l'exploitation des ressources naturelles mais sans porter atteinte au régime des eaux surjacentes. Concernant le milieu liquide, au-delà de la ZEE se trouve la "haute mer" et son régime de liberté.

Véritable succès, cette convention, prônant un usage pacifique des mers, totalisait 155 ratifications et adhésions en 2008. Malgré ces règles a priori précises, des disputes territoriales subsistent, leur nombre s'étant accru ces dernières années en raison de la date butoir du 13 mai 2009 pour faire valoir ses droits sur le PC. Généralement, on assiste à une tentative d'extension des compétences des Etats riverains, les discussions oscillant toujours entre deux positions extrêmes : liberté des mers et revendication de droits exclusifs.

## **Les revendications liées aux ressources halieutiques et minérales**

Les ressources minérales, souvent associées aux ressources énergétiques, sont l'objet d'une exploitation courante pour le sel, différents minerais, les graviers et le sable et d'une exploitation encore impossible (absence de rentabilité économique) pour certains métaux précieux, les nodules polymétalliques et les hydrates de gaz<sup>4</sup>. En raison de l'épuisement des sites actuels de production, l'exploitation de ces ressources minérales énergétiques sous marines devient de plus en plus indispensable. Aujourd'hui, 30% de la production mondiale de pétrole se fait en off-shore et les compagnies pétrolières prospectent des sites de plus en plus profonds. Toutefois, ces exploitations engendrent des problèmes de dégradation du milieu marin et des conflits quant aux droits d'exploitation en fonction de la localisation des réserves par rapport au zonage des océans. De nombreuses revendications territoriales, souvent relatives aux ZEE et aux PC, s'appuient sur des aspirations relevant de plus en plus de l'exploitation de ces ressources minérales, et non plus uniquement des ressources halieutiques (zones de pêche). Les exemples suivants démontrent

qu'un des buts de la CMB (la résolution des conflits territoriaux maritimes) n'est pas atteint et que l'outil n'est pas parfait.

**Les trois conflits territoriaux majeurs du Japon**

Zones de conflit et Etats impliquées	Zones revendiquées	Enjeux
Iles Shenkaku pour les japonais, appelées Diaoyu par les chinois et Tiaoutai par les taiwanais.	ZEE	Hydrocarbures
Ile Takeshima pour le Japon, appelée Tokdo par les sud coréens.	ZEE	Pêche, hydrocarbures
Territoires du Nord pour les japonais revendiqués par les russes (appellation Kouriles du sud).	Extension terrestre (mais grand intérêt maritime)	Hydrocarbures. Route maritime (ouverture pour la Russie entre la mer d'Okhotsk et l'océan Pacifique)

Le Japon connaît trois litiges frontaliers surinsulaires avec ses voisins : Chine, Taïwan, Corée du sud et Russie. Ces différends territoriaux, généralement anciens, ont été relancés lors des processus de délimitation des ZEE et des PC au milieu des années 1990. La ZEE du Japon agrandit douze fois son territoire terrestre : avec 4 427 915 km<sup>2</sup>, elle le fait passer du 50ème rang mondial (surface terrestre) au 6ème rang (surface globale), l'espace insulaire étant relativement

éclaté. Or une ZEE étendue n'est pas dénuée d'intérêts stratégiques (ressources énergétiques) d'autant que le Japon est une des grandes puissances en matière de pêche. L'ensemble de ces conflits sont une cause de relations diplomatiques tendues entre le Japon et ses voisins. Autre symbole de ces tensions : le litige portant sur le nom donné à la mer entre le Japon et la Corée du sud (mer du Japon / mer de l'Est) a été ravivé avec la ratification, en 1996, par les deux Etats, de la CMB et la reprise des processus de délimitation de leurs ZEE.

La France (via Saint-Pierre et Miquelon) et le Canada sont en concurrence au sujet des ressources halieutiques et du potentiel d'hydrocarbures en Atlantique Nord. Après un différend relatif à la délimitation de leurs ZEE respectives (qui s'est soldé en faveur du Canada et s'est traduit par une forte chute de l'activité de pêche pour les français), les tensions pourraient se raviver autour de l'extension du PC de ce département d'outre mer fortement enclavé. Les actuelles relations entre les deux Etats sont figées autour de certaines demandes françaises sur le PC, en vue de l'exploitation de gisements d'hydrocarbures, et sur l'augmentation des quotas de pêche. Si les deux parties sont en conflit, il n'est même pas certain que la Commission des Limites du PC examine le dossier.

Les approvisionnements en hydrocarbures deviennent un sujet sensible pour l'Europe occidentale. Pour en renforcer la sécurité, plusieurs gazoducs sont en projets. Actuellement, un gazoduc souterrain est en cours de construction dans le fond de la mer Baltique. La société North Stream, chargée du projet doit faire face à des oppositions très marquées de la part de certains Etats, dont l'Estonie, qui refuse que le tracé passe par ses territoires marins. Des contestations environnementales sont émises par la Suède et la Finlande. Ceci illustre le délicat triptyque entre souveraineté, intérêts stratégiques (économiques et énergétiques) et environnement.

### **Le cas du passage du Nord-Ouest : une cristallisation d'enjeux**

Le changement climatique produit des effets de plus en plus marqués sur la couverture de glace de la région Arctique, y laissant, de façon saisonnière, des passages libres, ou presque. En 2007, la banquise arctique en septembre avait diminué de 35% par rapport à 1979, la débâcle débutant en mai plutôt qu'en juin et l'embâcle étant retardé de fin octobre à mi-novembre (en Baie d'Hudson). Ce sont alors l'épaisseur (voire l'existence même) de cette banquise et la durée de la saison navigable qui évoluent pour offrir des conditions éventuellement favorables à une exploitation multiple de cette zone. Et le dossier est suivi de près par plusieurs Etats, principalement le Canada et les Etats-Unis.

Un premier type d'utilisation envisagée concerne l'exploration et l'exploitation du sous-sol. Ce dernier est :

### **La Caspienne, lac ou mer intérieure ?**

Avant la dislocation de l'URSS, le statut juridique de la mer Caspienne était clair : tant l'Iran que son voisin soviétique la reconnaissaient comme étant un lac séparé selon une ligne médiane. Aujourd'hui, sont concernés cinq Etats, chacun cherchant à faire appliquer le régime juridique qui lui est le plus favorable. En effet, la mer Caspienne recèle des gisements très importants en hydrocarbures, voit passer des conduites vitales pour l'économie régionale et abrite des esturgeons. Si cette mer est juridiquement un lac, cela signifie que l'espace est intégralement partagé en cinq portions proportionnelles à la longueur du littoral des Etats et l'utilisation des ressources ne peut se faire que suite à des décisions unanimes. Si elle est considérée comme une mer, elle est soumise à la CMB et l'exploitation des ressources est gérée par l'Etat riverain dans la limite de son plateau continental. C'est notamment la revendication de l'Azerbaïdjan qui a des vues sur le gisement d'Alov. Le centre de la Caspienne serait alors une zone ouverte à toute exploitation offshore. Or, une situation stable et précise de la zone est avant tout le gage de la sécurité des approvisionnements en hydrocarbures à l'échelon supra régional soupçonné contenir un potentiel énergétique et minier très intéressant. Si les explorations côté Nord-Ouest restent encore parcellaires et donc largement incomplètes, l'analogie avec le sous-sol côté Nord-Est (Norvège, Russie), très riche, est encourageante : pétrole, gaz, plomb, zinc, or, tungstène, uranium, argent et diamant.

Les perspectives de navigation commerciales sont aujourd'hui à l'étude pour un proche avenir (quelques décennies). Du point de vue des distances, le gain est flagrant pour les échanges est-ouest par rapport aux passages par Panama ou Suez. Toutefois, les temps de transit ne seront pas nécessairement abaissés, les navires devant réduire leur vitesse en raison des glaces résiduelles et des aléas climatiques pouvant engendrer d'importants retards. Les armateurs voudront-ils prendre ce risque de retards dont le coût pourrait être élevé ? De plus, cette nouvelle route impose avec certitude quelques coûts supplémentaires dus aux contraintes en termes de construction de navires (coques renforcées, forme de la coque et des appareils adaptée à la navigation dans des eaux froides), aux primes d'assurance plus élevées, à l'emploi d'équipages plus expérimentés. En outre, aucun port significatif ne jalonne ce tracé, contrairement au passage du Nord-Est, déjà effectif et rodé. Au regard de tous ces éléments, si le choix de cette nouvelle route paraît alléchant, il n'est pas garanti. De plus, la fonte des glaces en Arctique (et la nouvelle voie maritime qui en découlerait) verra se poser la question de la nature juridique et du régime applicable aux détroits du nouveau trajet arctique. Cela pose également la question de la délimitation des espaces marins de ce secteur.

C'est sur ces derniers points que portent les divergences entre le Canada et les Etats-Unis. Jusqu'à présent, en raison de l'immobilisation de la zone par les glaces, la question du degré de souveraineté canadienne ne s'était que très peu posée. Le Canada revendique le passage comme faisant partie de ses eaux intérieures et ainsi soumis à un contrôle de la part des autorités canadiennes pour des raisons de sécurité. En effet, les canadiens souhaitent notamment protéger leur environnement marin, une marée noire dans ce paysage (presque) vierge de toute pollution serait un véritable désastre, l'intensification de la navigation devant déjà suffire à bouleverser cet écosystème très fragile. En 1986, le Canada a proclamé une ligne de base englobant tout l'archipel arctique selon les normes de la CMB. Or les USA, et l'UE, réfutent cette position en arguant un contrôle et une présence non effectifs depuis quelques années. Les USA soutiennent que le passage, une fois libre de glaces, devra obtenir le statut de détroit international auquel doit s'appliquer le régime du libre passage. Tout dépendra donc du caractère convaincant ou non de la démonstration canadienne quant à son usage effectif de l'archipel.

## **Les dispositifs de séparation de trafic : un règlement conventionnel de la conflictualité des détroits**

Trafics des principaux détroits mondiaux

Détroit avec DST	Trafics	Entrée en vigueur DST
Gibraltar	LT 250 navires/jour	Juin 1997
Malacca	L 1000 navires/jour	1977 revu en 1998
Pas de Calais	LT 300 navires/jour	1967 revu en 2003
Bosphore	LT 2000 navires/jour	1994

L : latéral. T : transversal. (compilation ISEMAR)

Les détroits internationaux sont des couloirs maritimes reliant deux ZEE ou deux portions de haute mer. S'y applique le régime du passage en transit, qui diffère du passage

inoffensif applicable dans les détroits reliant une mer territoriale et une ZEE ou une haute mer. Deux types de trafics se déroulent dans les détroits : soit des trafics uniquement latéraux (ou de transit, généralement de marchandises), soit une combinaison de trafics latéraux et de trafics transversaux (reliant les deux rives opposées du détroit, généralement pour un trafic de passagers). Des intérêts divergents s'opposent dans ces détroits : ceux de l'Etat du pavillon contre ceux de l'Etat côtier, autrement dit la recherche d'une libre mobilité des flottes contre les impératifs de sécurité maritime, notamment au plan environnemental. Si la CMB, instaurant le régime du passage en transit et celui du passage inoffensif, va dans le sens des premiers intérêts, la convention CLOREG de 1972, établissant les règles internationales de navigation et instaurant les dispositifs de séparation de trafic (DST), permet une meilleure conciliation des deux intérêts, tout en privilégiant subtilement les seconds. Le mécanisme des DST sera quand même repris par la CMB, afin d'inciter à réduire les risques d'abordage dans ces zones à fort trafic, les DST trouvant tout leur intérêt en cas de croisement de routes maritimes. Si certains DST sont nationaux, ils doivent en règle générale être approuvés par l'OMI.

Le détroit de Malacca, entre la Malaisie, Singapour et l'Indonésie, voit passer plus de 100 000



navires par an, le trafic s'étant intensifié depuis une dizaine d'années. Un DST a donc été mis en place en 1977, renforcé en 1998. Ce sont les Japonais, soucieux de préserver ce passage maritime vital pour leurs échanges, qui ont soutenu le développement et l'organisation de cette zone soumise au régime du passage en transit. En 1968, le gouvernement japonais, les entreprises pétrolières, les transporteurs et autres organismes liés au secteur maritime créent le

Malacca Strait Council chargé d'améliorer les conditions de navigation dans le détroit via une aide technique et financière. Cela a débouché sur des campagnes de relevés hydrographiques, la mise en place d'un DST, d'un système électronique d'aide à la navigation et à la création d'un Fonds pour la prévention et la suppression de la pollution dans le détroit de Malacca. L'organisation du détroit s'est accentuée au début des années 1990 en vue de lutter contre la piraterie. Les trois Etats riverains signent des accords bilatéraux pour mieux coordonner les missions de surveillance, organiser des patrouilles communes (opération Malsindo et accord RECAAP) et autoriser les forces navales à poursuivre les pirates dans leurs eaux territoriales respectives. En 1993, avec l'intervention internationale, ils créent un Centre régional de lutte contre la piraterie à Kuala Lumpur.

## **La persistance de zones de non droit et la gestion des actes de piraterie**

La piraterie n'est pas un phénomène récent. Mais depuis 5 à 10 ans, on constate un déplacement des zones à risques. On peut établir une gradation parmi les Etats au large des côtes desquels se déroulent ces actes de piraterie et une corrélation avec le déplacement des zones sensibles. Ainsi, la piraterie diminue dans le détroit de Malacca où, bien que les Etats aient encore du mal à gérer leur frange côtière, on assiste à un renforcement efficace des contrôles, elle stagne et reste élevée dans le golfe de Guinée où l'Etat est présent mais n'illustre pas le concept d'Etat de droit et elle explose à l'est de l'Afrique où l'Etat somalien est quasiment absent, voire totalement absent pour les questions maritimes. Or la paix sur les mers, voulue par la CMB via son zonage fonctionnel, ne peut être assurée que si les Etats, titulaires de la souveraineté, ont les moyens de la mettre en œuvre. On voit là les limites du système.

Le golfe d'Aden, passage d'une des plus grandes routes maritimes (ligne Europe Asie), victime d'une recrudescence d'actes de piraterie, borde des Etats en situation de crise politique, économique et sociale. Ils sont ainsi incapables d'exercer toute leur autorité sur leurs zones



maritimes sous souveraineté. Les pêcheurs somaliens, privés de leur activité par la concurrence étrangère, puis formés aux techniques militaires par de sociétés privées sud africaines afin de protéger les côtes de Somalie, disposent de tous les atouts (techniques maritimes et de combat) pour se reconvertir à la piraterie, nouveau mode de subsistance. Ces derniers mois, les côtes somaliennes sont devenues craintes par les armateurs qui redoutent les attaques et les prises d'otages. Certains n'hésitent plus à dérouter leurs navires, d'autres font confiance à la toute récente intervention internationale ou, tout simplement, tentent le risque.

Les mesures de protection mises en œuvre contre les actes de piraterie sont de deux ordres : nationales et internationales. Les mesures nationales prennent la forme d'outils d'aide à la navigation, de radars, de satellites d'observation et du renforcement du contrôle (militaire) par l'Etat riverain. Au niveau international, la coopération s'organise autour de la surveillance par des patrouilles navales, la mise en commun des services de renseignement, la formation des militaires et garde côtes locaux et l'implantation de bases militaires. D'abord centrée sur les détroits à risques (Malacca, Ormuz), l'action internationale s'établit maintenant sur des zones plus larges (golfs d'Aden et de Guinée). Récemment, à l'est de l'Afrique, une force internationale sous mandat conjoint de l'ONU et de l'UE a été mise en place, les Etats ayant des moyens ont envoyé des patrouilles maritimes internationales dans le golfe d'Aden. Il s'agit de l'opération militaire Atalante ou EU Navfor. Sa durée est de un an et elle a pour mission de protéger les navires du PAM, certains navires marchands sensibles et plus généralement de dissuader les attaquants. En parallèle, l'ONU a permis d'étendre le droit de poursuite en haute mer à la mer territoriale (résolution 1846). On pourrait leur ajouter une 3ème catégorie de mesures, à destination des armateurs : la protection par des sociétés privées (GEOS, Marine Risk Management) dont c'est véritablement le fonds de commerce.

Les objectifs initiaux de la CMB étaient le maintien de la paix et de la sécurité internationale sur les mers et océans au travers d'un outil principal, le zonage règlementé. Pourtant, conflits et tensions perdurent et se font jour. Si des revendications territoriales, classiques, sont encore à résoudre, des zones de non droit apparaissent soit en raisons de la faiblesse du détenteur de la souveraineté sur une zone, soit parce que de nouveaux besoins naissent (nouveau couloir de navigation, volonté d'exploration et d'exploitation). Ces zones d'incertitudes ne facilitent pas le transport maritime, la liberté de navigation n'étant pas garantie. Il y a, en période d'incertitude sur les réserves énergétiques, encore trop d'enjeux stratégiques pesant sur les espaces marins. Finalement, outre la CMB, la diplomatie et la coopération semblent être la voie vers un usage pacifié des océans.

La France utilise ces deux méthodes dans l'océan Pacifique sud où elle est le seul Etat européen. Elle y joue un rôle de sécurisation des zones maritimes et initie des mécanismes de coopération en matière de surveillance maritime. Par cela, elle s'insère de mieux en mieux dans la géopolitique et dans l'économie locales et gagne donc la confiance des Etats insulaires (poids à l'ONU). Autrement dit, les territoires français d'outre-mer contribuent à insérer la France dans le champ diplomatique du Pacifique sud et lui permettent de développer une stratégie de sauvegarde maritime. Cette protection est très importante car la principale ressource des Etats micro insulaires est la pêche. Ainsi, outre la lutte contre les trafics divers, la priorité est donnée à la protection de l'environnement. En ce domaine, la France met en œuvre les moyens en usant de diplomatie et en instaurant une politique de coopération.

*1 La CMB règlemente également le Tribunal international du droit de la mer.*

*2 Nous ne détaillerons pas ici les règles relatives aux baies, canaux, eaux archipélagiques et à la Zone internationale.*

*3 Dans la limite des 350 milles à partir des lignes de base ou à 100 milles de l'isobathe 2500 mètres.*

*4 Les hydrates de méthane seraient un palliatif énergétique au gaz, au pétrole et au charbon. Les réserves estimées sont considérables mais leur exploitation génère encore beaucoup de gaz à effet de serre.*

*5 Les DST peuvent être mis en place dans et en dehors des détroits. Les critères sont la densité de trafic et le risque d'abordage qui en découle*

*Anne GALLAIS-BOUCHET*

ISEMAR

Avril 2009 – ISSN : 1282-3910 – dépôt légal : mois en cours

Directeur de la rédaction : Paul Turret

**Inséré le 05/04/12 – Open Forum – Enlevé le 05/05/12**

## Victor Horta, gravel trailer

In 2002, the Belgian dredging and marine engineering contractor DEME launched themselves onto the marine aggregates market with the Charlemagne, a gravel trailer with a hopper capacity of 5.000 m<sup>3</sup>. Sand and gravel are produced from various concessions in the North Sea and brought to shore delivery stations on the coast. From there, the products are usually distributed for use in concrete products. The business of DEME Building Materials (DBM) went up so that in 2007 the company equipped the trailing suction hopper dredger Vlaanderen XXI with a dry shore delivery installation to make her suitable for gravel dredging. This year the DBM fleet was further strengthened with the addition of Victor Horta.

### Excellent synergy

Due to the environmentally friendly winning and processing techniques, the market share of marine sand and gravel in the construction industry kept growing and inspired DBM to order a new gravel trailer. The new vessel, named Victor Horta, is an improved and updated version of the highly successful gravel trailer Charlemagne. As that ship was already the fruit of the excellent synergy between DEME and IHC Merwede, relatively few modifications were needed.

The Victor Horta was built by IHC Merwede's Kinderdijk yard, IHC Dredgers, and was delivered on 30 June 2011. The construction of the hull and superstructure took about nine months at IHC



#### Builder

IHC Merwede, the Netherlands

#### Owner

DEME Building Materials, Belgium

#### Principal particulars

Length o.a.	99.90 m
Length b.p.p.	92.50 m
Breadth	20.80 m
Depth	9.20 m
Mixerium draught	8.50 m
Total installed power	5.990 kW
Speed	13.4 knots
Accommodation	15 people

#### Dredging

Max. dredging depth	40/50/60 m
Suction pipe diameter	700 mm
Dredge pump	1.700 kW
Hopper capacity	5.000 m <sup>3</sup>
Dry unloading system	2.600 t/h

Merwede's VSH Shipyard in Heusden. After the towing transport along several rivers and low-hanging bridges, the superstructure could be placed on the hull, followed by a six-month period of outfitting along the quay in Kinderdijk.

The construction of the vessel is in mild steel, with the hopper boundaries made of extra-thick material to allow for corrosion and scraping damages from the grab loader. The parts which are regularly submerged, such as the cage for the dredge pump, were built of stainless steel. The same applies for all the steps of the exterior staircases. The hull was coated in typical DEMA-green with a coating system from International Paints.

While Trailing Suction Hopper Dredgers are frequently featured in this magazine, TSHDs built specifically as gravel trailers are a rarity, and thus we will focus on the particularities of this type. The five most significant features are:

- the submerged dredge pump,
- the screen towers,
- the box-shaped hopper,
- the grab unloading system,
- the conveyor belt unloading system.

Dredging is done with a draghead with a rotatable visor. The draghead is three metres wide and weighs in at 13 tons. A heavecompensation system keeps the pressure of the draghead on the bottom at a certain ideal level, thereby taking part of the load off the gantry cable. There is no jetwater installation in the draghead. Because of the significant dredging depth up to 60 metres, sufficient suction cannot be achieved with an inboard dredge pump. Instead, an electrically driven



*With the dry unloading system, the hold can be emptied in 4.5 hours*

submersible dredge pump is mounted on the suction pipe. The dredge pump is driven by a 1700 kW electrical motor supplied by Bakker Sliedrecht. The power supply for the pump is with 3 x 3300 V cables, and the rotation speed can be regulated from 0 to 450 rpm. In function of the area to be

dredged, the suction pipe can be lengthened with two pieces to increase the maximum dredging depth from 40 to 50 or even 60 meters. To do this, the draghead gantry needs to be relocated.

Discharge into the hopper can be either directly through a pipe in the forward hopper bulkhead, or through the two screen towers, where sieves make sure that gravel with the correct size goes into the hopper, while smaller-grain sand goes overboard. The bottoms of the towers are open to the sea, to allow water to drain through the ship's bottom. When discharging, the screen towers are rotated by 90 degrees to make space for the grab loader gantry. The mixture of water and gravel is even more abrasive than the normal water/sand mixtures TSHDs have to cope with, and its eroding properties can be compared with wet sandblasting. Hence the suction pipe is lined with a special hard-wearing liner.

## **Dryunloading**

Unlike a conventional TSHD, which unloads its cargo by fluidizing it with jetwater and pumping it overboard, the Victor Horta features a dry unloading system. This consists of a very wide grab suspended from a travelling gantry crane. The grab's width corresponds almost exactly to the width of the hopper. With each manoeuvre, the grab can drop 24 m<sup>3</sup> of gravel onto a feeder conveyor belt, which in various stages ultimately leads to the boom conveyor of 28 metres which can be slewed above the shore. The electrically driven dry-discharging system was supplied by Coops & Nieborg and has a capacity of 2.600 tons/hour. A complete unloading cycle will take about 4,5 hours, and can be completely managed by only one crane operator. While dry unloading will be used most of the time, the Victor Horta has built-in versatility: discharge through bottom doors is possible and provisions are made for the possible retrofitting of a jetwater system, to allow for pumping of the spoil to a pipeline or rainbowing nozzle.

## **Box-shaped hopper**

The rectangular shape of the grab loader requires a perfectly box-shaped hopper. For this reason, there is no centre keelson as on conventional hoppers. The bottom is entirely flat. The mechanisms for the bottom doors are placed in a recess in the hopper sides and the overflow is located in a recess at the aft end of the hopper. In the hopper bottom, twelve dewatering wells, covered with fine-mazed gratings, are drained by pumps, ensuring that the cargo is as dry as possible. Every ton of seawater shipped over a long distance is a ton less production of gravel or sand. The drainage pumps are located in the engine room.

*The grab spans almost the entire width and can put 24 m<sup>3</sup> of gravel onto the conveyor belt in one movement*





*The screen towers can be rotated to make room for the travelling gantry crane with the grab*

## Propulsion



*The last part of the conveyor belt system can be swivelled to the correct position*

Propulsion works with two main engines and two controllable pitch propellers. Each of the main engines also drives a generator through a PTO on the gearbox. The power of these is used for the onboard power supply, the 1700 kW submersible dredge pump and the elaborate unloading system. The electrical installation was

done by Vanderleun Installatiebouw (for low-voltage systems) and Bakker Sliedrecht (for high-voltage systems). The airconditioning system was supplied by Heinen & Hopman. Although a pump room is not necessary, as the dredge pump is mounted on the suction pipe, a space is reserved for the possible future installation of pressure pumps allowing pumping to shore.

## Accommodation

Contrary to the other TSHD's from DEME, the Victor Horta is not equipped for one-man-on-bridge control. Instead a dedicated separate dredging desk is located on the portside bridgework of the wheelhouse. The ship will be sailed by a crew of 14 persons, who each have a single cabin with enclosed sanitary facilities. Typically for DEME, officers and crew share the same mess room. No engine control room is provided, but an office in the accommodation is available for the engineers' paperwork.

## Efficiency

In comparison with other ships in the marine aggregates market, the Charlemagne and the Victor Horta are unsurpassed in terms of production capacity in relation to the amount of crew needed. Another advantage is that these ships can dredge in deeper concessions, which are less likely to provoke coastal erosion.

Environmental regulations stipulate a phasing out of sand and gravel extraction from rivers and land quarries in Belgium, France and the Netherlands. DBM intend to fill this gap with their gravel dredging fleet and hope to increase their turnover in the marine



*A submersible pump is mounted on the suction pipe to achieve high dredging depths*

aggregates market from 30 to about 150 million euro. During the construction of the vessel however, the recession in the housing market brought along poor returns for marine aggregates. Nevertheless, the construction of the Victor Horta continued as planned and by the time of the delivery, the market for marine aggregates was already clearly in recovery. One of the shore stations used by the ship will be the newly built gravel processing plant in Flushing, which has an annual capacity of 1.5 million tons. Similar installations have been planned for Amsterdam, Dunkirk and Ostend.

The name of the vessel is a tribute to Victor Horta, Belgium's most renowned architect and designer, who was one of the instigators of the Art Nouveau style. Saving an overnight stay, DEME took delivery of both the Victor Horta and the 30.000 m<sup>3</sup> hopper dredger Congo River on the same day - 30 June 2011 - at two different IHC Merwede shipyards.



*The propellers are driven directly by a pair of Wärtsilä main engines*

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**Inséré le 07/04/12 – Boeken Livres – Enlevé le 07/05/12**

## **Un nouveau livre de Joris Surmont vient de paraître**

C'est avec fierté que nous annonçons avoir conclu un contrat avec Joris Surmont habitant De Haan en Belgique. Son livre s'intitulant : 'Au travers des mailles du filet', vient d'être imprimé. Il s'agit de la traduction française de la troisième édition du même ouvrage en néerlandais qui a paru en 2011.

L'auteur est à votre entière disposition afin de vous présenter son livre. Il vous contactera prochainement afin de vous fournir de plus amples informations.

Nous apprécierions beaucoup si vous pouviez lui consacrer un peu de votre temps.

Après le succès de son ouvrage en néerlandais, nous sommes persuadés que la traduction française sera appréciée par le public francophone.

L'Amiral de Division en retraite, Jean-Pol Robyns, Aide de Camp Honoraire du Roi, a préfacé le livre et le Capitaine de frégate Honoraire, Yves Soetens s'est chargé de la rédaction.

Vous trouverez de plus amples informations concernant ce projet à l'adresse suivante : <http://www.ijslandvaart.net/frans.html>

### **Texte de la jaquette**

Au travers des mailles du filet', nous raconte la pêche, dans ses heurs et ses malheurs, l'enseignement sousestimé du métier de pêcheur, le manque de sommeil, conséquence de cales bien remplies, les guerres de la morue plus que houleuses et des méthodes de pêche. L'histoire de la pêche au large de l'Islande est aussi une histoire humaine et réveille une nostalgie certaine. Ce furent les vagues impressionnantes de l'océan Atlantique Nord et le dangereux passage du Pentland Firth au nord de l'Ecosse, qui impressionnent Joris Surmont. Et parce que chaque histoire a ses racines, tant dans le passé que dans le futur, d'illustres prédécesseurs et des perspectives nouvelles seront abordés. C'est également le témoignage d'un secteur marginal et méconnu en

Belgique, qui depuis des décennies tente de se maintenir à flot, en dépit de la libéralisation du marché, de la surpêche et ceci conjointement à une gestion européenne défailante.

### **Quelques renseignements**

Titre : Au travers des mailles du filetAuteur : Joris Surmont

Nombre de pages : 148

Illustrations : 70 illustrations en noir et blanc et en couleurs

Format : paperback 16cm x 24 cm

ISBN : 978-94-6176-835-3

Prix fixe : € 16,95

Le livre peut être commandé dans chaque librairie, ainsi que par Internet chez l'éditeur et chez l'auteur ([j.surmont@skynet.be](mailto:j.surmont@skynet.be))

Les frais d'envoi pour un exemplaire sont de € 3,96 pour la France et la Belgique. Vous pouvez vous procurer le livre en virant € 20,91 (ou €16,95 + € 3,96 frais d'envoi) sur le numéro de compte suivant :

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**Inséré le 09/04/12 – LOGBOEK – NEWS – Enlevé le 09/05/12**

## **Italy, India in tug of war over trial**



Italian foreign minister Giulio Terzi on Monday voiced disagreement with India over the killing of two fishermen reportedly mistaken for pirates by Italian marines on a cargo ship off the Kerala coast. "There are currently considerable differences of a legal character. Up to now, I have not seen the cooperation between India and Italy that would be desirable and allow a quick resolution," he said in Rome.

His remarks came a day after a special Italian delegation to New Delhi failed to stave off the arrest of two Italian navy personnel on the security team of the ship, **Enrica Lexie**. The delegation comprising the secretary of the justice department and heads of the legal departments of both the foreign and defence ministries had made many forceful arguments, but were countered by India.



The delegation had said Italian law provided for extra-territorial jurisdiction over their nationals, so the marines could stand trial under domestic laws. New Delhi, however, had insisted that the ship's crew would face trial in India.

The Italians had also interpreted provisions of the United Nations Convention on the Law of the Sea to offer their own inquiry, since the ship was flying the Italian flag. But the Indian team had said the crime was against an Indian trawler, involving unarmed fishermen and not naval ships. India had also rejected the pirate claim, pointing out that the Kollam coast in Kerala, where the fishermen - Valentine Jalastine, 45, and Ajeesh Binki, 25 - were shot on Wednesday, was not infested with pirates. When the delegation had pushed for diplomatic immunity for the navy personnel, India countered, saying such a cover was "state specific". For example, a diplomat posted in one country cannot have immunity in another. New Delhi had stressed friendly ties with Italy and told the delegation their arguments could be made before an Indian court. **Source : Hindustan Times**

## Italy sends top envoy to India over ship firing



Italy on Tuesday sent a top diplomat to India and said foreign minister Giulio Terzi will visit next week amid an escalating row over two Italian guards arrested for killing two Indian fishermen. Junior foreign minister Staffan De Mistura will "continue on a political level the action so far carried out by a delegation of experts from the Italian foreign, defence and justice ministries," the foreign ministry said in a note.

"Minister Terzi will visit personally next Tuesday," the note said. The Italian foreign ministry also claimed that Indian police had taken "coercive" and

"unilateral" action when it escorted the two guards off the oil tanker where they were deployed as security guards and arrested them on Sunday. The guards, Massimiliano Latorre and Salvatore Girone, members of the elite San Marco Marine regiment, were on board the tanker to guard against piracy and Italy has said they mistook the fishermen for pirates. The tanker was sailing from Singapore to Egypt when the incident took place.

Italian authorities insist that the men should not be prosecuted in India as the tanker, the Enrica Lexie, was flying under an Italian flag in international waters when the shooting occurred on Wednesday off southern India. Italy's Defence Ministry has claimed the Indian fishing boat behaved aggressively and was repeatedly warned before shots were fired. It said the officers fired warning shots and the boat left "with no obvious damage." But India has protested fiercely against the deaths of the unarmed men and said that the suspects must face justice in local courts. **Source : The Times of India**

## Italy Slams India's Action Over Deaths of Fisherman

The recent arrest and jailing of two Italian armed ship guards by Indian authorities drew a sharp protest from the Italian foreign ministry. The prosecution followed a complaint accusing the duo of killing two Indian fishermen off the Kerala coast Feb. 15. The guards were part of a six-member security detachment aboard the **Enrica Lexie**, an Italian-flag oil tanker. Italian foreign minister Giulio Terzi on Wednesday summoned Indian Ambassador to Rome Debrabata Saha to receive an official protest over New Delhi's action. The minister described the legal process as "unacceptable" and insisted Indian courts had no jurisdiction in the case, arguing that the incident took place in international waters. "A cause for concern is that the current climate of tension and strong anti-Italian feeling aroused by this case in India could be prejudicial to the proper conduct of the legal

proceedings now under way, the legitimacy of which Italy does not recognize given the lack of jurisdiction," he said.

Terzi reiterated Italy's stand that the deployment of armed guards on Italian-flag merchant ships was regulated by a specific Italian law and the case should be dealt with under the Italian legal system. "India's handling of the case involving two Italian crewmembers could set a 'dangerous precedent' in combating piracy." Italy intensified its diplomatic campaign as a local court ordered the guards, who were arrested Feb. 19, be remanded in judicial custody until March 19. The Indian foreign ministry earlier said the shooting on an unarmed fishing boat was totally "unjustified" and the ship's crew should cooperate with the investigating agencies. Meanwhile, officials gave no indication when the **Enrica Lexie**, which is anchored near Cochin Port since Feb. 16, would be released.

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**Inséré le 11/04/12 – LOGBOEK – NEWS – Enlevé le 11/05/12**

## **Dutch court sends 5 Somalis to jail for piracy for hijacking a South African yacht last year**



A Dutch court sent two Somalis to jail for up to seven years on Friday for hijacking a South African yacht last year and seizing a South African couple who are still missing. Three others also were convicted of piracy. The five men were caught by the Dutch navy in the Gulf of Aden in November, heavily armed with machine guns and bazookas.

Prosecutors failed to prove a link between three of them to the sailboat Choizil, which was seized off Tanzania's coast two weeks before the Somalis were captured. The yacht was run aground and the captain rescued. But a South African man and his wife who were taken hostage remain in pirates' hands with a \$10 million ransom demanded for their release.

The sentences handed down by the Rotterdam court ranged from seven to 4 1/2 years imprisonment. As customary in the Dutch judicial process, the names were not publicized even after conviction.

In similar cases this year, a U.S. court in Virginia sentenced five Somalis to life in prison and a Spanish court in Madrid sentenced two convicted pirates to 439 years each.

Prosecution spokesman Wim de Bruin said the sentences were in line with Dutch law which provides a maximum 9-year term for piracy, and 12 years for a pirate captain. The 17th-century law against sea robbery has not been revised since modern pirates began plaguing the sea lanes off Africa's eastern coast.

A court statement said the five men were intercepted at sea by a Dutch naval ship in November before they could seize another ship.

In determining sentence, the judges dismissed arguments that the men were driven to piracy by poverty and famine.

Instead, they took into account the professionalism of the pirates in organizing violent attacks against international shipping.

"The court has emphasized that piracy in the Gulf of Aden has turned into a significant threat for all ships that frequent the region," said the statement. "Global economic consequences can no longer be ruled out."

Two decades of anarchy in Somalia have allowed pirates to flourish off its coasts. For years, complicated legal issues dissuaded countries from prosecuting captured thieves, and most were released or handed over to Somali or Kenyan courts. But the Dutch case reflects a shift by maritime nations to take action themselves.

At least 17 nations around the world have tried or are prosecuting pirates.

The Rotterdam trial was the second by the Netherlands, and other pirates captured by the Dutch navy have been extradited to Germany. The Dutch also are prosecuting another 16 people captured after a gunbattle in April in which two pirates were killed

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**Inséré le 13/04/12 – HISTORIEK HISTORIQUE – Enlevé le 13/05/12**

## **ZEEWOORDEN : GOTEBANK\***

De Gotebank, gelegen op 22 km vóór de kust van Oostende-Zeebrugge, is niet zomaar een zandbank. Hij mag dan wel meer dan twintig kilometer lang zijn, toch valt hij op de recente zeekaarten niet echt op.

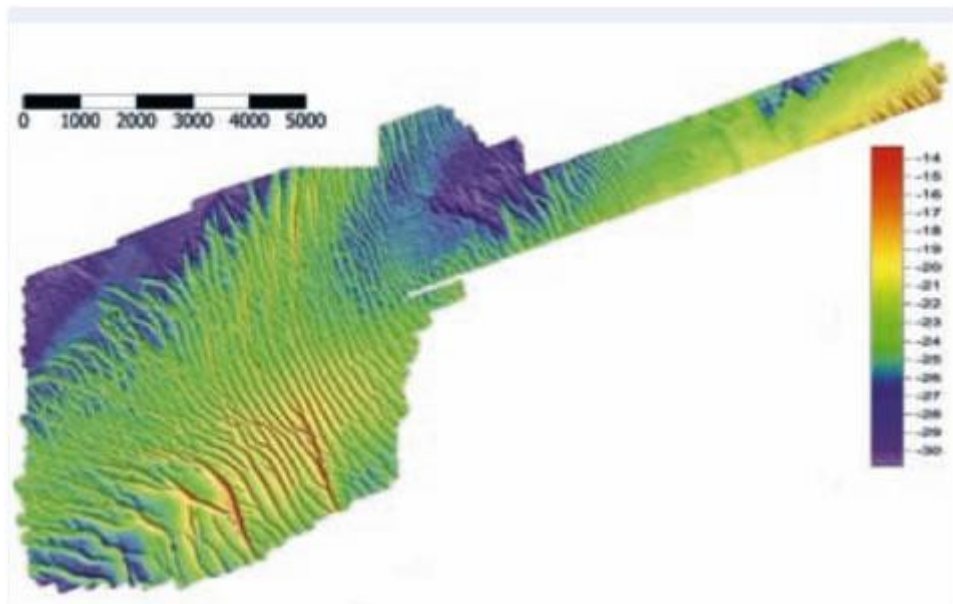
Hij is nogal vlak van profiel en bovendien diep gelegen. Daarbij doet het eerste deel van zijn naam, gote, eerder denken aan een geul dan aan een ondiepte. Kunnen oudere kaarten hier verhelderend werken?

We gingen op speurtocht.

### **EEN PLATTE BANK MET EEN ZANDWINNINGSVERLEDEN**

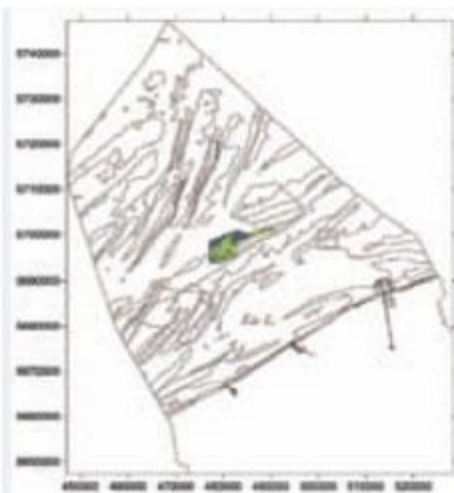
De Gotebank zoals we die vandaag kennen, lijkt veeleer op een grote, afgeplatte bult dan op een typische zandbank. Typische zandbanken in het Belgisch deel van de Noordzee hebben immers een kam, iets wat bij de Gotebank ontbreekt. Dit is te verklaren vanuit de ontstaansgeschiedenis van de bank. Geologisch onderzoek door Mieke Mathys en collega's (UGent) toont aan dat de Gotebank zo'n 9500 jaar geleden is gevormd. Toen ontwikkelde deze bank zich samen met de Akkaertbank :

- vandaag van de Gotebank gescheiden door een geul van ca. 3-4 km.
- aan de zeezijde van een kustbarrière van eilanden en evenwijdig met de kustlijn.



Een zeespiegelstijging vergrootte later de afstand tot de kust. Omdat beide banken door stormen en niet door getijdenstromingen zijn geboetseerd, zijn ze veel lager en meer afgerond dan de "klassieke" getijdenbanken. Hoewel de bank globaal gezien

dus een vrij vlak profiel heeft, bevinden er zich aan het oppervlak verschillende in omvang variërende zandduinen. Tussen het oppervlakkige, maximum zes meter dunne zandpakket uit het Kwartair en de Tertiaire sokkel uit klei, komt plaatselijk grind voor. Op de zeekaart is ook te zien dat de Gotebank uit twee delen bestaat: een smal en lang (noord)oostelijk deel en een breed en korter (zuid)westelijk deel. Beide delen worden verder nog doorsneden door diepe, onregelmatige geulen.



■ Op dit digitaal terreinmodel is te zien dat de Gotebank een vrij vlak profiel heeft en uit twee delen bestaat: een smal en lang (noord) oostelijk deel en een breed en korter (zuid) westelijk deel. Onregelmatige diepe geulen zijn zichtbaar, met name in het ZW (FOD Economie, Dienst Continentaal Plat)

Winningen van zand op het Belgisch continentaal plat gingen van start in 1976. De Gotebank behoorde, samen met de Thorntonbank, tot een concessiezone die specifiek werd aangesneden voor haven- of kustwerken uitgevoerd door of voor de overheid. Met name het zuidwestelijke uiteinde van de bank kwam hiervoor in aanmerking. Omdat het zanddek hier vrij dun is en de zandvoorraden beperkt, heeft de Gotebank vandaag zijn belang als zandwinningszone verloren.

## OUDE ZEEKAARTEN EN DE VERKLARING VAN DE NAAM

Gotebank is een samenstelling van goot en bank. Het woord goot, een afleiding van het werkwoord gieten, betekent vandaag net zoals vroeger 'afvoerkanaal'. De vraag is evenwel waarom men die bank zo heeft genoemd. Bevond die zich misschien aan een vaargeul die De Gote werd genoemd? Consultatie van oude zeekaarten bevestigt alvast dit vermoeden. Al op de kaart van Pieter Goos uit 1666 (Vlaanderen in oude kaarten, p. 116-117) vinden we in de buurt van de Gotebank de namen Nauwe Gote en Gote vermeld, en dat is ook het geval op de kaart in de Zeefakkel van Johannes van Keulen (1681-84; zie kaart boven). Op deze

laatste kaart is de Gote een naar het oosten – d.i. in de richting van de Nauwe Gote – versmallende geul, gelegen tussen de Witte Bank ten noorden en de Smalle Bank ten zuiden. De namen van die banken zijn nu niet meer in gebruik, maar verwijzen vermoedelijk naar respectievelijk de huidige Gotebank en de Akkaertbank. Veel later, meer bepaald op de "Zeekaart der Visscherij van Blankenberghe" (ca. 1890), is er sprake van de Westgote en de Oostgote, kennelijk op dezelfde locatie als waar van Keulen de Nauwe Gote en Gote vermeldt en geprangd tussen de Gotebank (in het noorden) en de Akkaertbank-Weilebank-Rikje van de Gote (in het zuiden) (zie kaart onder).



■ Op de kaart van Johannes van Keulen (1681-84; boven) is de Gote een naar het oosten – d.i. in de richting van de Nauwe Gote – versmallende geul, gelegen tussen de Witte Bank ten noorden en de Smalle Bank ten zuiden. De namen van die banken zijn nu niet meer in gebruik, maar verwijzen vermoedelijk naar respectievelijk de huidige Gotebank en de Akkaertbank. Op de "Zeekaart der Visscherij van Blankenberghe" (ca. 1890; onder), is er sprake van de Westgote en de Oostgote kennelijk op dezelfde locatie als waar van Keulen de Nauwe Gote en Gote vermeldt en geprangd tussen de Gotebank (in het noorden) en de Akkaertbank-Weilebank-Rikje van de Gote (in het zuiden)(resp. Zeefakkel & patrimonium St-Pieterscollege)



Wat er ook van zij, de namen Gote en Nauwe Gote slaan op een tweeledige geul, één van de vele (vloed- en eb-)geulen van de zuidelijke Noordzee. De zandbank naast de Gote werd naderhand geheel logisch Gotebank genoemd. Die naam duikt pas betrekkelijk recent in de bronnen op. Op de eerste officiële Belgische zeekaart van 1866, samengesteld door de Belgische hydrograaf en marineofficier Auguste Stessels (1826-1875), is de bank nog zonder naam weergegeven. Hij heeft een minimale diepte van 11 m, wat aangeeft dat hij vroeger minder diep onder het waterpeil stak. Pas in 1946 verschijnt Gotebank voor het eerst als toponiem op een

Belgische zeekaart, namelijk op de kaart "DunkerqueWestkapelle" van 1946, samengesteld door de hydrograaf Jules Lauwers.

\* Op de huidige zeekaarten staat de zandbank vermeld als Gotebank; wij volgen evenwel de taalkundig correcte spelwijze Gotebank (cfr. oorsprong naam van de bank)

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**Inséré le 15/04/12 – OPEZN FORUM – Enlevé le 15/05/12**

## **ECDIS – Capabilities and Limitations**

ECDIS is a powerful tool that offers a range of benefits to the modern navigator – but only if applied correctly and with adequate knowledge of the system's capabilities and limitations. Paying close attention to the ECDIS fundamentals can make a big difference, writes Malcolm Instone, ECDIS Ltd

As a historical comparison, the onset of ECDIS could be said to be as significant as putting steam powered engines and propellers on sailing ships.

The comfort blanket of the much loved and respected paper chart is fast disappearing and being replaced by a digital equivalent. Some embrace this new technology and others fear it.

It is therefore not surprising that the rapid advance of this new technology means there are large numbers of ships navigating with paper charts and ECDIS, or in historical parlance, navigating with sails and engines.

This will no doubt continue until adequate training, equipment efficiencies and trust in ECDIS equipment warrants the removal of 'sails'.

For those that distrust these systems, much of the distrust can be put down to a lack of the proper training that would give the operator the ability and confidence to use the equipment efficiently and effectively.

The need for training is justified by the large numbers of ECDIS related incidents at sea. We all read about these incidents and with the benefit of hindsight pass judgement, but this could be you joining a ship with ECDIS, without adequate training.

Ask yourself whether you would be able to utilise the system safely and effectively? Are you willing to take the risk of not conducting adequate training?

One thing is certain, when used by properly trained operators ECDIS provides enormous benefit for the mariner over existing paper charts.

Such benefits include:

- Increase in spatial awareness and efficiency – This ultimately means the operator has more time to look out of the window.
- Fusion of navaid information – Pools information feeds to assist in compiling your picture (e.g. Radar Image Overlay (RIO), AIS and NAVTEX).
- Increased safety in dangerous conditions – If you can prove the ECDIS derived position correct you can judge yourself to the nearest point of danger very accurately.
- Fast, accurate passage planning and re-planning
- Automated, fast, accurate chart updates

It is my opinion that the concept of ECDIS systems can be likened to that of radar sets.

Radar sets are subtly different in the way they look and the software they use, but on the whole they all contain much the same functionality. The challenge is to know where to find that functionality on the system you are using.

The existence of multiple systems in fleets makes this challenge greater, although for those that are waiting for the day all ECDIS menus look the same do not get too excited. One only needs to look at radar which has been around for decades to see that it is highly unlikely.

It is therefore incumbent on the purchaser to choose their ECDIS system with care so they have the functionality to meet the task (minimum performance standards laid down in IMO A.817(19)).

Furthermore, it is essential that adequate training is available so the operator is able to get the most out of their ECDIS and understand both capabilities and limitations of the equipment.

Playing around with an ECDIS for a couple of hours is not enough to warrant navigating with it. There is no substitute for proper training.

I have listed some advantages of ECDIS over paper charts, but what does ECDIS offer the operator in terms of functionality and time saving during the Route Planning process (Appraisal, Planning, Execution and Monitoring), and what are the shortfalls of using such systems for this purpose?

## **Data**

Firstly, without data an ECDIS system is useless. It is the quality of data within it that is the basis for navigational safety.

It may therefore be prudent for the would-be ECDIS purchaser to choose a quality, reliable data product first before purchasing an ECDIS that can utilise it, rather than the other way round.

There are two different types of data product available for use in ECDIS, Raster and Vector charts.

Raster charts are high quality scans of paper charts whereas Vector charts are databases that use 'objects' in the database to create a customised display.

There are official variations of each data type, called Raster Navigational Charts (RNC) and Electronic Navigation Charts (ENC). Both terms sound non-specific but are in fact very specific.

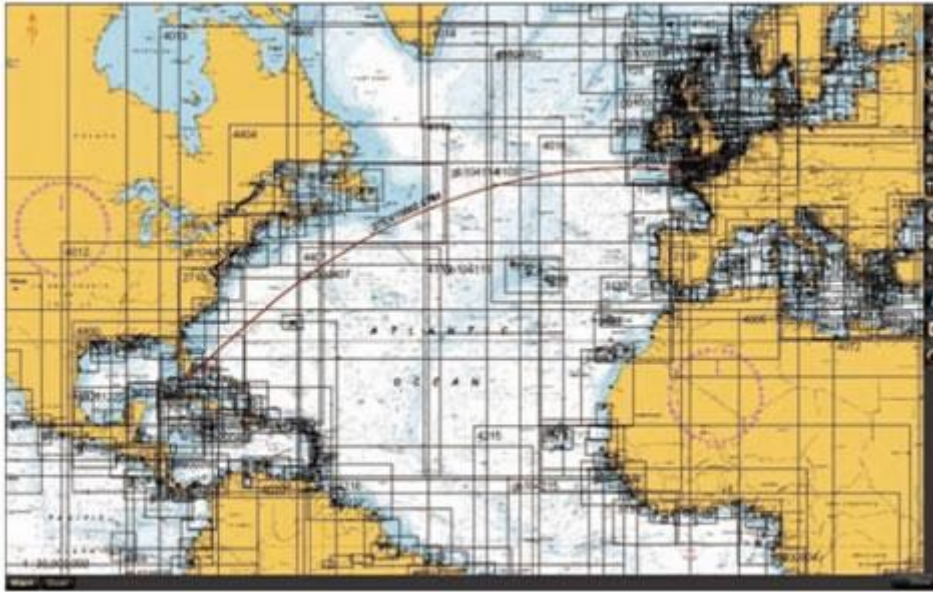


Figure 1 – Overlay of catalogue of available charts

RNCs, by definition, are official charts as their official status is based on the premise that they must be constructed in accordance with IHO publication S-61 i.e. standardised and issued by a government authorised Hydrographic Office (HO).

ENCs, by definition, are official vector

charts as their official status is based on the premise that they must be constructed in accordance with IHO publication S-57 i.e. standardised and issued by a government authorised HO.

With the existence of Private data produced by companies independent of HOs it is prudent to tread with caution in order to ensure that your data product is official.

When installed with data, ECDIS systems can utilise a number of different products of both RNC and ENC format to suit the mariner's needs.

The system is also capable of giving visibility of holdings so that you can see which charts are available within your system folio. This can be displayed as a list of available charts or as in Figure 1, as an overlay similar to that shown in a chart catalogue.

However, the shortfall of the system with regards to data is that ENC coverage of the world is incomplete. Therefore, if your route is not entirely covered by ENCs, then in accordance with IMO Circular 207 the mariner must utilise an appropriate combination of ENCs, RNCs and paper charts to execute the route.

Thus, not only does it require careful planning with regard to data use, but also great expense for the mariner.

Here are some considerations when using data:

- What data products can your ECDIS utilise (SENC data such as TADS?)
- Do you have sufficient coverage of ENCs for your route?
- If you do not have sufficient coverage of ENCs, do you have sufficient RNCs?
- If using RNCs you are in RCDS mode and you will require an 'appropriate' folio of paper charts in accordance with IMO Circular 207
- What is your Flag State definition of 'appropriate' folio of paper charts?
- The operator must ensure the system prioritises the correct chart data type (ENC/RNC). Know how your system prioritises data.

## Advantages – and caveats

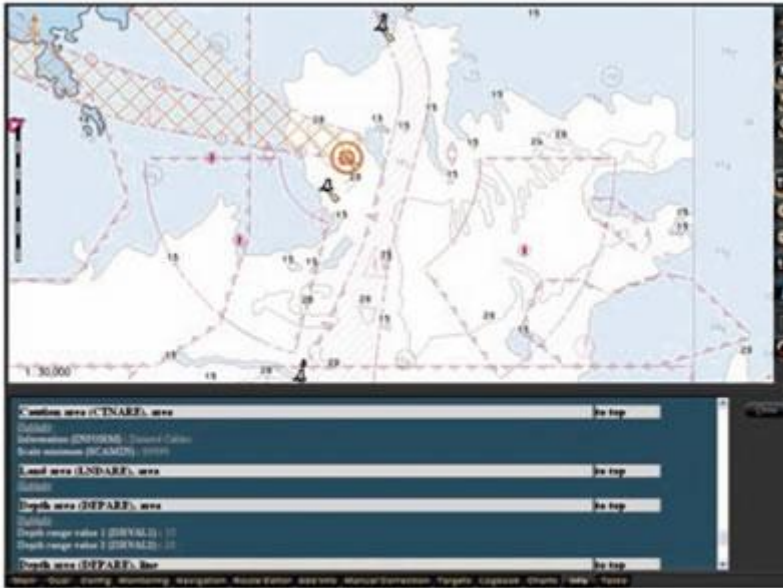


Figure 2 – Cell information

An obvious advantage when using ENC is the ability to interrogate it to view information on the cell and objects within the cell (see Figure 2). Effectively, it provides access to an encyclopaedia of information that the operator can access. In future this may include the integration of a huge number of information sources such as Admiralty List of Lights & Fog Signals (ALLFS), for example, in order that all relevant information is available at the operator's fingertips. However, before you get excited at the prospect, there is a lot of work required before this vision is achieved.

Moreover, access to this information on ECDIS systems is not yet as user friendly as it could be. For example, it is not always possible to get a sufficient explanation of an object, particularly when interrogating ECDIS Chart1 and it can take a long time to find the information required.

Many systems do not prioritise the interrogated object at the top of the list of those available in the cell and as such it can take time to cycle through the list before you find what you are looking for.

It should be noted that although RNCs are scans of paper charts, when interrogated they also provide limited information about the chart such as Title, Scale, Projection and Updates, but objects within it cannot be interrogated.

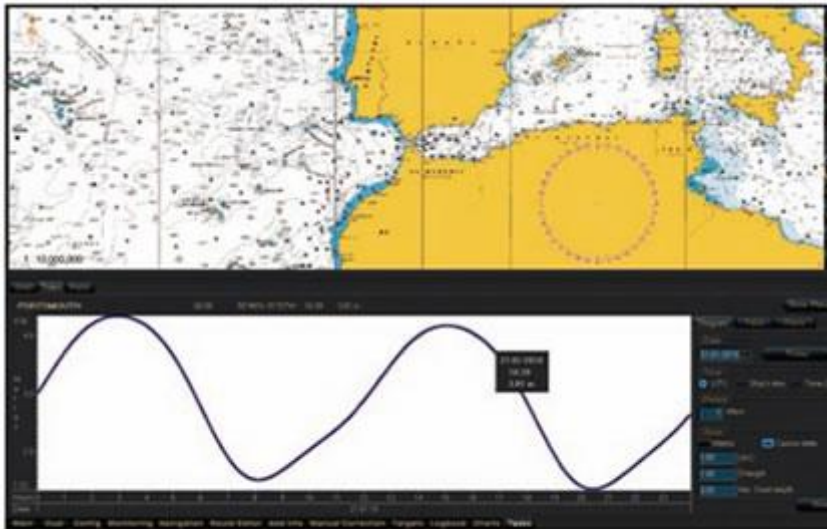


Figure 3 – Tidal curves

Some systems offer additional databases such as tidal curves (see Figure 3) and prediction data to aid in calculating HW, LW, tidal heights and predicted TS.

However, before committing to such databases, it is worth considering where the data is from, whether it is official data and if or how it can be updated.

Not all Flag States approve data provided by ECDIS manufacturers, with some stating that only Admiralty Total Tide (ATT) is acceptable (most systems

are able to integrate ATT).

The environmental data in some systems may be official, in that it has been purchased from official sources, but it does not necessarily state exactly where it is from, so be careful.

Some systems are able to provide their own database of worldwide ports and port information to aid the Mariner, whilst others can be integrated with existing publications such as Lloyd's Fairplay.

If utilising databases provided by the manufacturer then consider how the database is updated and whether information can be updated by the user as changes occur.



Another great advantage of the ECDIS is its ability to highlight a given Safety Contour based on a set Safety Depth. ECDIS uses an operator configured safety depth to display a safety contour that differentiates safe water from that which is unsafe.

However, the lack of contour data currently available within ENCs means the operator is not yet able to fully harmonise the Safety Contour with the Safety Depth.

## **Passage planning**

Route creation on an ECDIS can be fiddly and frustrating to start with, but when practised makes the process much quicker.

For example, if you were constructing a Great Circle route on paper charts it would be fair to say that this would require knowledge, skill and a significant amount of time! However, constructing a Great Circle route on ECDIS takes seconds as waypoints are placed at the click of a button.

Moreover, there is no need to rub out your past track and re-plan or transfer waypoints from one scale of chart to another as waypoints are placed on all available charts for its position.

Once the Route is complete you are presented with all the information relevant to the route. Enter your ETD and it will calculate your arrival time based on planned speed or enter your ETA and it will calculate when you need to depart.

If you enter your ETD and ETA the system can calculate the necessary speed required to meet the ETA i.e. SOA. Some systems can calculate the effect of tide on your route timings and even calculate Under Keel Clearance based upon an entered draught.

Once the plan is derived it can be saved and used again and again or even copied to disc and shared amongst a Fleet of ships.

However, the route planning function varies between systems with some being easier to use than others. Furthermore, some systems lack functionality with regard to producing Great Circle routes.

For example, not all are able to split the curved line into individual Rhumb Lines, whereas other systems provide detailed options such as limiting latitudes, number of segments, length of segment etc. It must also be noted that not all systems can calculate SOA based upon an entered ETD and ETA.

Once a route is planned ECDIS systems also have the ability to check the planned route for dangers. However, be careful as the check only looks within the Cross Track Distance (XTD) or Corridor of the route, so ensure that it is correctly configured to cover the required area. The wider the XTD the more alarms will be generated, although this is not a reason to reduce it below what is required.

The check looks for set parameters which could be system defined as well as operator defined, depending on the system. If your system offers the ability to configure the search beyond set parameters, ensure that what you want the system to search for is selected.

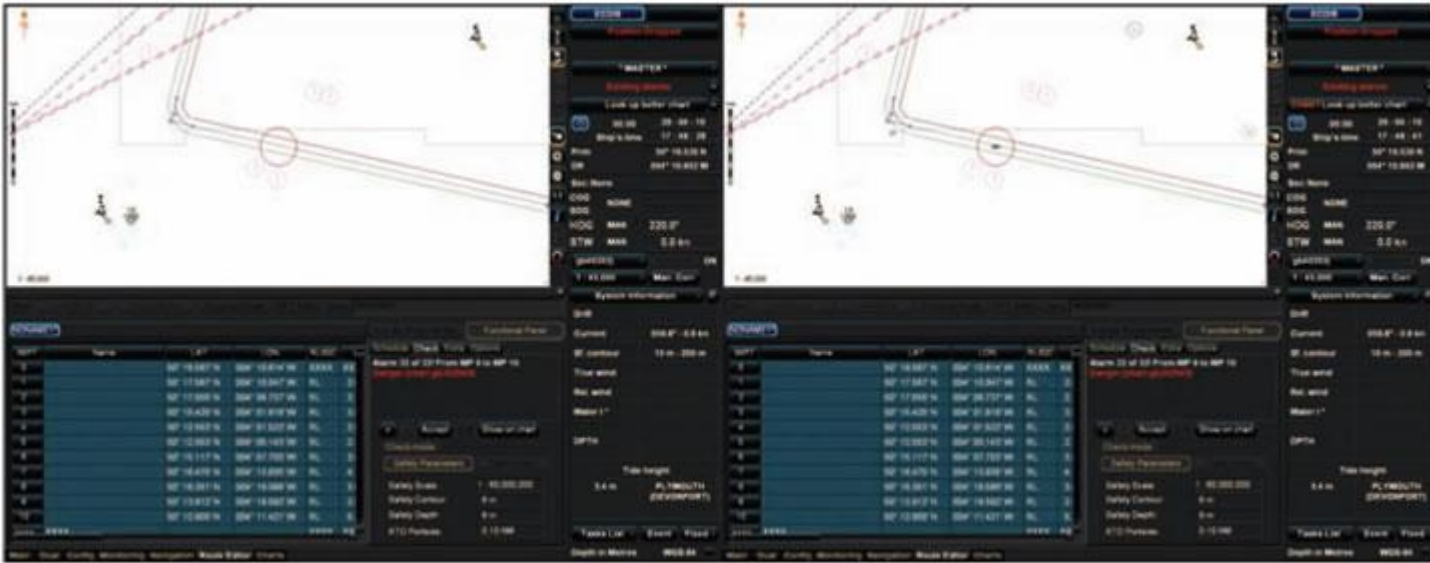


Figure 4 – Standard display versus Custom display

Also, when checking the route it is important to ensure that the correct display setting is selected (see Figure 4). In the left hand screenshot the system is in the Standard display and the route check is highlighting a Danger, although it is not shown. In the right hand screenshot the display has been set to Custom and Isolated Dangers have been selected for display. The highlighted symbol is now displayed (non-dangerous wreck).

Another frustration when using ECDIS systems to check a route is that it may highlight the same danger on multiple occasions without recourse for the operator to clear the specific danger in one action.

When conducting the check of the route, the system will only check ENC's and not RNC's, unless there are manual alarmable constructs within the XTD.

The inability of most systems to highlight gaps in ENC coverage for your route therefore necessitates that a manual check on the best scale charts be conducted for the entire route. Note that this can be time consuming but comes highly recommended!

Once the Route has been checked, additional information pertinent to the route can be added. The system can even be configured to alert the operator of such notices.

Considerations at this stage are how best to display the information so that it can be clearly seen by the operator.

Note that the font size is constrained on many systems and symbology is also limited. Personally, I used to favour a 'cloud and arrow' approach on paper charts to draw attention to supplementary information, but this is not necessarily available as a symbol in ECDIS.

You must therefore make use of whatever is available and what works for you. Perhaps technology will allow the use of light pens to add such information in future?

## Interpreting information

It is essential that the system is set up correctly prior to executing the route or important information will not be displayed. This relates to settings for display, data for the vessel itself and the configuration of Alarms on systems that allow it.

For display purposes, the amount of information must be configured prior to executing the route and for this purpose 3 types of display must be available for use with ENC's; S52 Base, Standard and All Other.

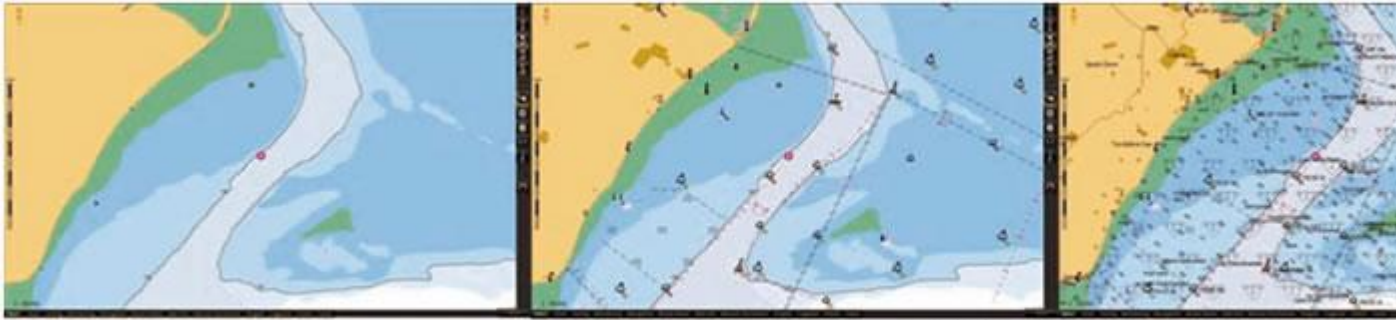


Figure 5 – 'Base' display, 'Standard' display, and 'All Other' display

The 'Base' display (Figure 5, left screen-shot) provides a minimal amount of information and represents data that cannot be removed from the display. As such, the Base display does not provide enough information for safe navigation. The 'Standard' display (Figure 5, centre screenshot) incorporates the Base display plus additional features to provide a more appropriate display for safe navigation

The 'All Other' display (Figure 5, right screenshot) presents all layers of data and I would suggest that this provides too much information for effective navigation. This is because the volume of data shown clutters the display making it difficult to see safety critical information.

Therefore, most manufacturers provide an extra display category, normally called 'Custom' that allows the operator to configure their display to incorporate information between Base and All Other.

Some systems also allow the saving of such displays so that the operator can customise displays for all environments such as Pilotage, Coastal, Open Ocean, Anchoring etc., selecting them as and when required.

However, due to the sheer volume of settings and configuration that is possible, it is recommended that check-off cards be produced to cover all environments.

Remember, too much information is as dangerous as too little.

The system auto-filter also means that unless you are navigating on the best scale chart, you will not see all the information available for display. Therefore, when zooming out the system will automatically deselect certain features from display such as Soundings, Lights and Topographical detail.

The only way to ensure that your display is not affected by SCAMIN (Scale Minimum) is to always ensure you are navigating on the best scale chart! It is therefore essential that the operator knows how to select the best scale chart on their system.

## **ECDIS route planning tips**

1. Screen into 'large' or 'planning' screen format.
2. Orientate the chart to show the beginning and end of the route to get a 'big handful' feel for the route.
3. Create a blank canvas by hiding all old routes, constructs etc.
4. Begin with waypoint plotting in the general area of the start and end of the route.
5. Select either Rhumb Line or Great Circle route etc.
6. Zoom in to a more appropriate scale to modify the start and finish waypoints and 'massage' way-points to account for TSS etc.
7. Ensure that you have adequate XTD for the various legs of your route to take into account the nature of the environment and expected possible deviations, lateral separation from the route and collision avoidance.
8. Check Zones of Confidence (ZOC) or Source Data Diagrams and amend the route or highlight as necessary.
9. Set Safety Depth and Safety Contour values.
10. Conduct a system check of the route at an appropriate XTD to allow for deviations, collision avoidance etc.
11. Once all alarms have been checked and verified, check the route in its entirety on 1:1 scale by manually scrolling along it.
12. Add relevant additional information and manual corrections.

13. Double check Distance / ETD / ETA and Tidal Constraints.
14. Protect the route as necessary and save a back up.
15. If updates are installed prior to sailing or during the execution of the route, ensure that the route is checked again, as updates may affect it.(note it does not include Soundings).

## Positioning and navigation

The ECDIS system tirelessly fixes and records ship position based upon the primary fixing system (GPS or DGPS), whilst searching the track ahead for risky or even dangerous conditions such as Traffic Separation Schemes, charted wrecks and shoal patches.

The system is also capable of loading charts automatically as you execute your passage, based upon ship position.

Additionally, ECDIS also offers high levels of confidence by fusing different fixing modes (GPS/Visual/RIO) into one display. Manual fixing functionality is also provided, although some systems provide more functionality in this regard than others.

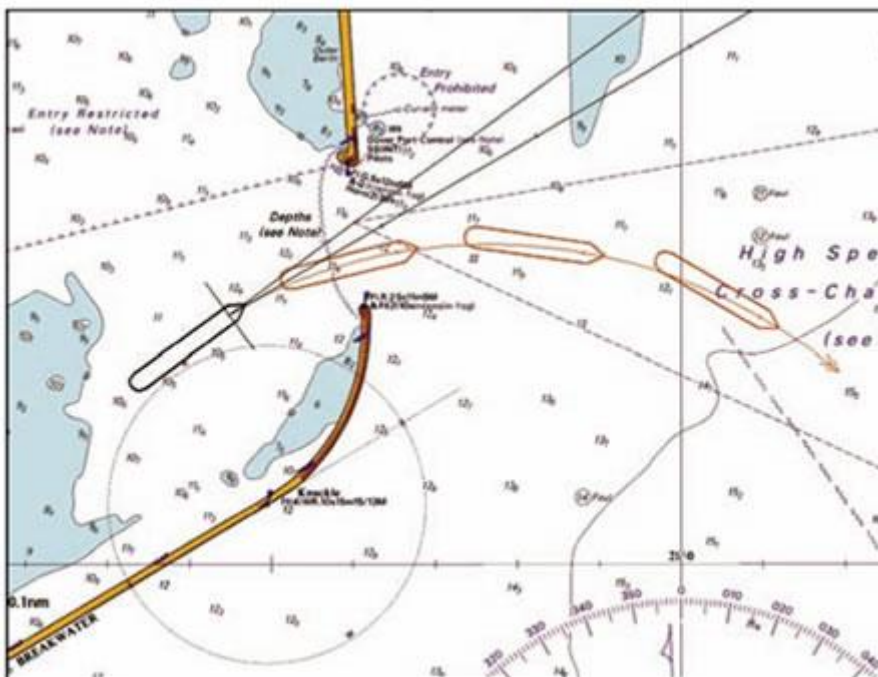


Figure 6 – Predicting future position

If the positional information is accurate, the system can be used to give valuable information about a ship's position when turning in confined conditions.

Some manufacturers have developed precise navigation tools such as the Docking Mode function that allows detailed information on the forces at work on the vessel to be viewed in a separate panel.

Furthermore, functions such as a Predictor can also be used to predict the future position of the ship based upon

real-time influences on the vessel such as wind, tidal stream, acceleration and deceleration and Hydro-dynamic data (see Figure 6).

When used correctly, both are excellent tools to reassure the operator of what is being seen out of the window – “this looks a bit tight, we need to put more wheel on – ECDIS concurs...”

## ENC updating

The days of updating and correcting charts in the charthouse are numbered, but do not ditch those tracings just yet.

In my experience the one component of ECDIS that is guaranteed to ruin your day is the inability to update your system or install charts. Remember, it takes time and system knowledge to complete installation and updating effectively.

It is worthwhile timing how long it takes your system to conduct a small and large update so that you are aware of the timescales involved. Remember, after updating the system you will need to check your route again to check for new dangers.

Ensure that you are getting your weekly permit updates and that they are updated prior to any charts. Furthermore, be extremely careful when using USB sticks and CDs to transfer information between systems and computers as ECDIS systems lack virus protection.

It is recommended therefore that the transfer of information between systems only occurs within the LAN and that any USBs or CDs are virus checked prior to being used.

It is also prudent to back-up your system regularly. This undoubtedly needs to be carefully controlled in ship's procedures.

If you are considering linking your ECDIS to the internet for chart updating purposes, consider the following:

- Do you need to? Do you have an adequate feed of information from nav aids such as NAVTEX and a system in place to plot it on the ECDIS? If so, do you require such a connection?
- How effective is the anti-virus fire-wall? If operating ECDIS and a virus prevents the ship from sailing (or worst case causes an accident) the decision to link to the internet will soon be questioned.
- Will the system cease safety monitoring for the period it is updating?
- What is the cost of updating via internet connection?
- Will the system automatically highlight new updates so the operator can view their relevance relative to the planned route?

ECDIS systems are designed and built by engineers. This is not a derogatory statement, but it is my opinion that more current mariner knowledge is required in order to provide the mariner with a better, more user friendly product.

The systems contain far more functionality than is needed and are not yet as ergonomic and user friendly as they could be. Moreover, inadequate training is responsible for a large number of collisions and groundings as operators are over-reliant on ECDIS and simply do not understand the shortfalls of such systems.

However, ECDIS systems are a revolution and do go a long way in making navigation safer and easier, but only if:

- The operator uses the system correctly.
- The operator configures the system correctly.
- The operator understands the capabilities and limitations of the system in use.
- The operator is not over-reliant on GPS or on the ECDIS system.
- The operator utilises spare capacity by looking out the window and assessing the integrity of navigation aids and equipment.
- The operator manages and supervises the system adequately.

Like it or not, ECDIS is coming and for most deck officers it is a case of embrace it or risk becoming irrelevant on the bridge of a ship.

For both types of mariner I recommend confronting the problem head on by conducting approved training and learning as much as possible about these systems. It is cringe worthy but true - train hard, navigate easy! DS



***About the author***

*Malcolm Instone is director of operations and standards with ECDIS Ltd, a company offering advice on various aspects on the transition to ECDIS, as well as a range of accredited training courses ([www.ecdis.org](http://www.ecdis.org)). Screenshots used in this paper are courtesy of Transas and Kelvin Hughes.*

**Inséré le 17/04/12 – OPEN FORUM – Enlevé le 17/05/12**

## **ECDIS capabilities and limitations (Part II)**

*This is the second part of an article written by Mal Instone\* of ECDIS Ltd. The first part appeared on page 36 of the January/February issue of TANKEROperator.*

Some ECDIS route planning tips:

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5. Select either Rhumb Line or Great Circle route etc.
6. Zoom in to a more appropriate scale to modify the start and finish waypoints and 'massage' waypoints to account for TSS Etc.
7. Ensure that you have adequate XTD for the various legs of your route to take into account the nature of the environment and expected possible deviations, lateral separation from the route and collision avoidance.
8. Check Zones of Confidence (ZOC) or Source Data Diagrams and amend the route or highlight as necessary.
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14. Protect the route as necessary and save a back up.
15. If updates are installed prior to sailing or during the execution of the route, ensure that the route is checked again, as updates may affect it.

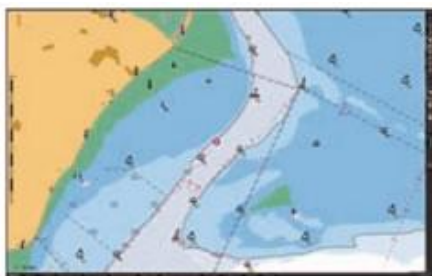
### **3) Execution & monitoring – interpretation & cross-check**

**a. Configuration:** It is essential that the system is set up correctly prior to executing the route or important information will not be displayed. This relates to settings for display, data for the vessel itself and the configuration of alarms on systems that allow it.

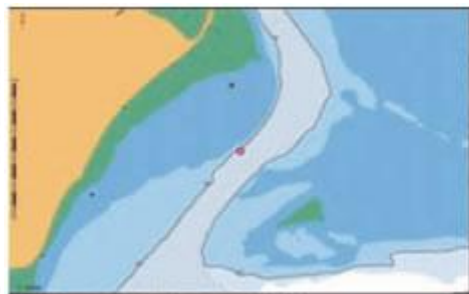
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The 'Base' display (bottom left screenshot) provides a minimal amount of information and represents data that cannot be removed from the display. As such, the base display does not provide enough information for safe navigation. The 'Standard' display (centre screenshot) incorporates the base display plus additional features to provide a more appropriate display for safe navigation (of note it does not include soundings).

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**Standard display.**



**Base display.**



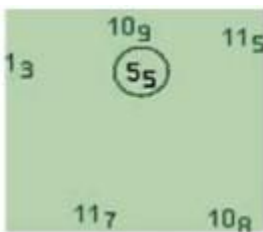
**All other' display.**

that allows the operator to configure their display to incorporate information between base and all other.

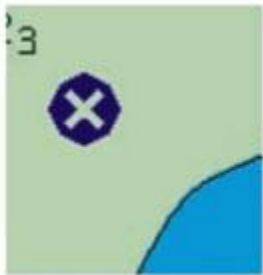
Some systems also allow the saving of such displays so that the operator can customise displays for all environments such as pilotage, coastal, open ocean, anchoring etc, selecting them as and when required. However, due to the sheer volume of settings and configuration that is possible, it is recommended that check-off cards be produced to cover all environments. Remember, too much information is as dangerous as too little!

**b. SCAMIN:** The system auto-filter means that unless you are navigating on the best scale chart, you will not see all the information available for display. Therefore, when zooming out the system will automatically de-select certain features from display such as soundings, lights and topographical detail. The only way to ensure that your display is not affected by SCAMIN is to always ensure you are navigating on the best scale chart! It is therefore essential that the operator knows how to select the best scale chart on their system.

**c. New symbology:** ENC's have brought new symbols that must be learnt and understood, like the



Sounding 5.5, reported, unreliable / therefore will not show up with safety contour.

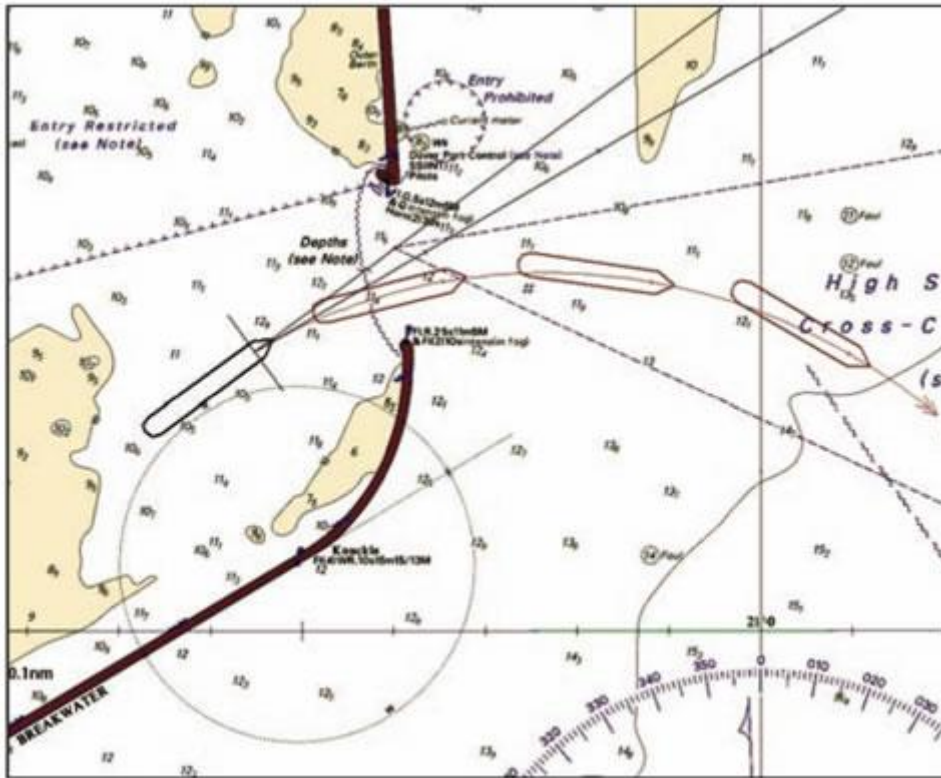


Wreck - Dangerous wreck / Obstruction - Depth unknown / Rock - Underwater, awash rock  
Could be depth unknown or value of sounding known - only when interrogated. Separates to depth contour.

two featured above.

**d. Fixing:** The ECDIS system tirelessly fixes and records ship position based upon the primary fixing system (GPS or DGPS), while searching the track ahead for risky or even dangerous conditions such as traffic separations schemes, charted wrecks and shoal patches. The system is also capable of loading charts automatically as you execute your passage, based upon ship position. Additionally, ECDIS also offers high levels of confidence by fusing different fixing modes (GPS/visual/RIO) into one display. Manual fixing functionality is also provided, although some systems provide more functionality in this regard than others.

**e. Precise navigation:** If the positional information is accurate, the system can be used to give valuable information about a ship's position when turning in confined conditions. Some manufacturers have developed precise navigation tools such as the docking mode function panel that allows detailed information on the forces at work on the vessel to be viewed in a separate panel.



Functions, such as Predictor can be used.

Furthermore, functions, such as the predictor, can also be used to predict the future position of the ship based upon real-time influences on the vessel such as wind, tidal stream, acceleration and deceleration and hydro-dynamic data (see screenshot above). When used correctly, both are excellent tools to reassure the operator of what is being seen out of the window ".....this looks a bit tight,

we need to put more wheel on – ECDIS concurs..."

#### **4) Chart installation & updating**

The days of updating and correcting charts in the charthouse are numbered, but do not ditch those tracings just yet. In my experience the one component of ECDIS that is guaranteed to ruin your day is the inability to update your system or install charts. Remember, it takes time and system knowledge to complete installation and updating effectively.

It is worthwhile timing how long it takes your system to conduct a small and large update so that you are aware of the timescales involved. Remember, after updating the system you will need to check your route again to check for new dangers. Ensure that you are getting your weekly permit updates and that they are updated prior to any charts. Furthermore, be extremely careful when using USB sticks and CDs to transfer information between systems and computers as ECDIS systems lack virus protection.

It is recommended therefore that the transfer of information between systems only occurs within the LAN and that any USBs or CDs are virus checked prior to being used. It is also prudent to back-up your system regularly. This undoubtedly needs to be carefully controlled in ship's procedures. If you are considering linking your ECDIS to the internet for chart updating purposes, consider the following:

1. Do you need to? Do you have an adequate feed of information from nav aids such as NAVTEX and a system in place to plot it on the ECDIS? If so, do you require such a connection?
2. How effective is the anti-virus firewall? If operating ECDIS and a virus prevents the ship from sailing (or worst case causes an accident) the decision to link to the internet will soon be questioned.
3. Will the system cease safety monitoring for the period it is updating?
4. What is the cost of updating via internet connection?
5. Will the system automatically highlight new updates so the operator can view their relevance relative to the planned route?



Legal implications:

Legally, in order to navigate using ECDIS as the primary means of navigation, that is to say 'go paperless', then the following must be achieved (flag state dependent):

1. ENC coverage for the entire route (ENC=official data).
2. Equipment must be in accordance with IMO Resolution A817(19) (performance standards). If it is not, then the equipment is an ECS and is not legally compliant.
3. Training must be adequate. At present that means conducting a flag state approved five-day IMO 1.27 ECDIS course, and a type specific course on the equipment to be used at sea. The use of CBT alone is not sufficient.

Always consult your flag state for clarification and be aware of legal anomalies, such as flags that do not recognise RCDS mode, or flags that require a risk assessment for example.

## Summary

ECDIS systems are designed and built by engineers. This is not a derogatory statement, but it is my opinion that more current mariner knowledge is required in order to provide the mariner with a better, more user friendly product.

The systems contain far more functionality than is needed and are not yet as ergonomic and user friendly as they could be. Moreover, inadequate training is responsible for a large number of collisions and groundings as operators are over-reliant on ECDIS and simply do not understand the shortfalls of such systems. However, ECDIS systems are a revolution and do go a long way in making navigation safer and easier, but only if:

- The operator uses the system correctly.
- The operator configures the system correctly.
- The operator understands the capabilities and limitations of the system in use.
- The operator is not over-reliant on GPS, or on the ECDIS system.
- The operator utilises spare capacity by looking out the window and assessing the integrity of navigation aids and equipment.
- The operator manages and supervises the system adequately.

Like it or not, ECDIS is coming and for most deck officers it is a case of embrace it or risk becoming irrelevant on the bridge of a ship. For both types of mariner I recommend confronting the problem head on by conducting approved training and learning as much as possible about these systems. It is cringe worthy but true - train hard, navigate easy! TO

\*Mal Instone is director of operations & standards, ECDIS Ltd.

\*\*Screenshots courtesy of Transas and Kelvin Hughes.

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**Inséré le 19/04/12 – Logboek Nouvelles – Enlevé le 19/05/12**

## **Legal and financial risk grows as Iranian ships ply Asian seas**

International sanctions against Iran's national shipping line in response to Tehran's nuclear ambitions are mounting. The world's largest container carrier Maersk has suspended operations at three Iranian ports while the US Treasury has launched legal action against 121 companies and individuals affiliated with the Islamic Republic of Iran Shipping Lines (IRISL). The latest round of measures, for providing support to Iran's missile and nuclear programmes, came after IRISL was ostracised by the international maritime community with mortgage foreclosures on its ships and access to insurance greatly limited, prompting speculation IRISL is facing its own death knell.

However, as IRISL limps on, a new set of risks has emerged with potentially catastrophic ramifications – particularly in East Asia where the monitoring of IRISL's fleet has improved dramatically but surveillance still remains patchy. "Any Iranian ship in Asian waters should send alarm bells ringing as Iran tries by all means to escape sanctions imposed for its involvement in nuclear weapons proliferation," said Carl Thayer, Emeritus Professor with the University of New South Wales in Australia. "The effect of the sanctions led IRISL to put unsafe ships to sea, where they pose a potential environmental hazard.



Who will foot the bill if an IRISL ship is involved in an accident and spills its fuel? Asia states that allowing IRISL ships into their ports should have second thoughts," he said. Doing business with Iran and IRISL has become increasingly difficult in recent years, with United Nations, European and US sanctions making even the most aware operator cautious about trading with

country.

Tehran insists the sanctions are unjust and its nuclear programme is purely for peaceful purposes while IRISL has echoed those sentiments and says its operations remain profitable and sound. While maintaining this stance, IRISL has also been accused of attempting to evade sanctions through a complex network of front companies to take advantage of loopholes in maritime law. But it is maritime law that now poses a problem for IRISL and the waters that its ships ply. Under the International Convention on Civil Liability for Bunker Oil Pollution Damage (2001) shipowners are required to hold insurance or other financial security to cover the liability for pollution damage in an amount equal to the limits of liability. This limit is usually up to US\$1 billion. A well-documented cat-and-mouse game has been played out against IRISL and its efforts to buy adequate insurance for its operations. Of one specific class of insurance – Protection and Indemnity (P&I) potential consequences could be felt beyond the US, Europe and Iran and especially in Asia.

When goods are shipped around the world, the owners of the goods and vessels usually take out marine insurance. This cover, however, does not generally extend to third-party liability in the event of an accident. "P&I cover is third-party liability insurance that provides compensation to third-party victims of maritime incidents," said Andrew Bardot, secretary-general of the International Group of P&I Insurers. It is essential to reassure port authorities that should a vessel run aground, collide with another ship, are involved in an oil spill or fall foul of a serious incident, insurance cover is in place to pay for damage to ships, ports or the environment. The great costs associated with the **Deepwater Horizon** spill in the Gulf of Mexico of between \$2 billion and \$5 billion or the still evolving Fukushima disaster in Japan have driven home such nightmare scenarios.

The Exxon Valdez showed litigation and reparations could take decades to resolve. IRISL's P&I cover was withdrawn by Lloyds of London in 2009 following UK sanctions against the shipping line. IRISL then found cover from a P&I provider operating out of Bermuda. In 2010 Bermuda passed legislation, bringing them in line with the UK. "EU regulations have resulted in cover being terminated or not renewed for a number of designated Iranian shipping companies including IRISL and the NITC (National Iranian Tanker Company)," Bardot said. IRISL then approached the Islamic

P&I club who refused to provide cover. Finally IRISL secured P&I cover from Moallem, an Iranian insurer with no record of providing this type of insurance. On Dec 21, the US Treasury sanctioned Moallem. Within maritime circles the presumption is the Iranian government is the reinsurer of Moallem. Analysts said given doubts about Moallem and the severe restrictions on the Iranian government, banks and other institutions, how IRISL and Tehran would react to a shipping and environmental calamity and what options were opened for redress and compensation goes to the heart of the issue. It's an issue that Greenpeace says must be addressed by Asean given the threats to livelihoods and food security \_ and any legal loopholes should be closed while uninsured ships must be barred from entering regional ports. Keith Loveard, a regional security analyst with Jakarta-based Concord Consulting said an Iranian shipping disaster off the coast of Indonesia would cause rifts within government circles as was evident with the leak from a Thai rig off the northern Australian coast last year. "The government would be caught between different currents with the foreign ministry attempting to maintain smooth relations while the environment ministry would be hopping mad and local communities would be left to deal with the mess.



Others suggested a means of recovering costs incurred in dealing with an environmental incident would be to sequester any Iranian state-owned property or assets within the affected country such as aircraft operated by state-owned Iran Air. Gavin Greenwood, a risk analyst with Hong Kong-based Allan & Associates said the recent seizure of a Thai aircraft used by HRH Crown Prince Maha Vajiralongkorn in Germany to try and resolve a longstanding dispute over money was one example over how this could work.

"The International Court of Justice could also be involved, though this is a long-term proposition," he said, adding "Iran used the ICJ to claim restitution from the US after a US Navy warship shot down an Iran Air Airbus in July 1988." Mohan Malik, Professor of Asian Security at the Asian-Pacific Center for Security Studies in Honolulu, said the location of an accident involving the Iranian shipping line would also be important. "If it happens in the busy Malacca Straits or in the South China Sea, most littoral and major powers will be forced to contribute to the clean up in order to facilitate an uninterrupted flow of energy and goods," he said.

The IMO declined to comment on IRISL, however, sources close to the organisation said it was undertaking amendments to its strategic direction in regards to liability and compensation claims in the wake of the **Deepwater Horizon** disaster. Most maritime authorities demand a Blue Card from the P&I insurer as evidence that sufficient insurance is in place to meet liability requirements under the bunker convention. But in Asia it is not clear how routinely this is enforced or checked. If a maritime agency had doubts about the owners or operators ability to meet a liability it is able to deny a vessel entry or exit from ports or waters under its control. Thayer said that lack of clarity in Asia demonstrated "yet again" the weakness of the region's security architecture and the reluctance of many Asian states to support sanctions. "Banning IRISL ships from Asian ports would be a good first step in supporting the non-proliferation regime and protecting the marine environment against an accidental fuel spill." While the US, EU and UK have taken the lead against Iran in regards to its declared and undeclared nuclear weapons ambitions, the real world impact of those sanctions are now being seen well beyond the Iranian interests that have been targeted. IRISL continues to operate in Asia, with untested and unproven insurance and the responsibility that Asia does not become a victim of events in Iran now fall onto the shoulders of Asian governments and maritime authorities. **Source: Bangkok Post**

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**Inséré le 21/04/12 – Logboek Nouvelles – Enlevé le 19/21/12**

## **D.P.Fall Pipe Vessel Flintstone**

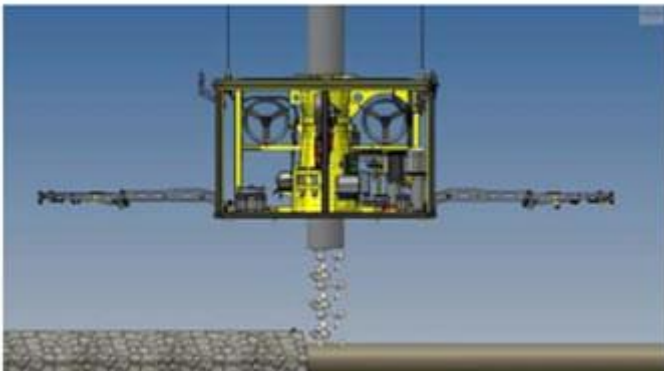
The Tideway Fall pipe vessel FLINTSTONE returned last week in Singapore from her first works offshore China where the new vessel installed 256.000 tons of stones during her first assignment, the vessel returned to Singapore for some minor works on the yard at which was including the preparations for her trip to Schiedam.



Top : The aft control panel at the spacious wheelhouse



The 154.6 mtr long FLINTSTONE is an ultra modern "specialised" vessel, which is able to dump stones via a 650 mm diameter fall pipe system up to depths of 2000 mtr, in total the vessel is able to load in total 20.000 tons of rock/stone distributed over the 2 large buns, which have both their own excavator to transport the stones from the bun towards the conveyor belt (on top photo on the left side) for further transportation to the HUISMAN built Rock dumping unit/fall pipe system , this whole operation can be done with a dumping speed of 2000 tons/hour, on the end of the pipe is a large ROV (as seen left) which is operated from the wheelhouse to make sure the stones are landing on the correct position.



The large ROV is custom made for the vessel, with a length of 6.3 mtr and width of 3.7 mtr and a weight of 19.8 ton, the ROV is powered by 3 x 120kW powerpacks and is operated by 3 umbilical's which are stored on 3 large storage reels in the vessel.



The vessel is equipped with a Dynamic Positioning System Class 2 with Auto Track, Auto Heading and Follow ROV Mode and powered by 4 Rolls-Royce main engines (as seen below) which are delivering the power for the 2 propulsion thrusters of 4.600 kW each which are able to give the vessel a top speed of 15 knots, the 2 Swing up thrusters of 1.800 kW each and the 2 bowthrusters of 900 kW each, the vessel is able to operate at DP whilst on "heavy" fuel.

Onboard is accommodation for 43 persons, which are housed in spacious cabins equipped with Satellite TV and DVD player, even all cabins have internet connection (V-Sat) for easy communications with family and friends



In Singapore also anti-piracy measures were installed on the vessel, it is a pity and very sad to see all the works which have to be done onboard to bring nowadays a vessel safely over the oceans, a lot of barb wire installed around the whole vessel, as well protection plates (top left) for the Dutch Marines which boarded the vessel prior departure and in addition the P-Trap system which was installed by the P-Trap team at strategic places, equipped with 130 mtr long lines on each side of the vessel and additional lines over the stern



Equipped with all this anti-piracy measures the FLINTSTONE departed from Singapore bound for Schiedam in the Netherlands, herewith I would like to thanks Capt Hans and his crew for the hospitality onboard and Maurits of P-Trap for the explanation how the P-Trap system works, and wish the crew, from which a part is seen below a safe voyage , thanks guys for the coffee 0 All photo's : Piet Sinke ©

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**Inséré le 23/04/12 – Logboek Nouvelles – Enlevé le 23/04/12**

## **Seafarers deserve fairer lives at sea**

by Fredrik Larsson, Marine Manager, INTERTANKO

I was delighted when asked by IFSMA's President, Captain Christer Lindvall, to give a presentation at the 2010 Annual General Assembly in Manila on the subject of either tanker recruitment or criminalisation of seafarers. Both subjects are not only close to my heart but also high on the agenda for the organisation I represent. They are also closely related and I therefore suggested that I cover both in this paper.

With the huge growth in the tanker fleet over the last couple of years, it is inevitable that an increase in demand for tanker officers and ratings will follow. This growth, despite the economic downturn and recession, will continue although probably at a slower pace than projected before the recession. Various reports and studies conducted over the last couple of years have been forecasting a shortfall of officers in the region of 2-10 per cent.

Before the recession hit the industry, the shortage of officers in particular was causing shipowners and shipmanagers to allocate huge amounts of money in either salaries or training to secure the people they needed. Shipowners and shipmanagers who had invested in in-house training schemes and cadet berths saw poaching as a major threat. It caused salaries to hit new record levels several times a year. One chief executive of a major shipmanager went on record to say that Filipino second officers were earning more than their president.

Mindful of the lack of officers before the recession, the shipping industry in general and the tanker industry in particular have been keen not to scale back on recruitment campaigns or training programmes during the recent economic downturn. I am confident that the industry has been acting responsibly in this regard although many companies no doubt have had difficulties in keeping their training budgets intact.

Recruitment to the tanker industry is not a standalone issue. It's a question of attracting people to the industry as a whole. Most importantly it's about retaining the officers we already have. The existing pool of competent tanker officers is the heart of our industry. Without them no tanker can operate. We therefore need the existing officers to pass on experience and knowledge to the younger generation and to mentor it, just as they have always done and hopefully always will do, as in any profession.

Learning by doing is a great concept that was introduced thousands of years ago. No university or simulator can fully replace it although, of course, simulator training is now playing an important role and will continue to do so in the future.

When the recession hit the world's economies in 2008 it hit global trade hard and as a result the shipping industry suffered. Anchorages were bursting at the seams with ships lying idle. This meant that demand for seafarers of all ranks was decreasing. Those who kept their jobs became reluctant to leave what they hoped were safe companies, hence poaching suddenly wasn't an issue anymore. Various signs show that the recession conserved the existing pool of seafarers, and in fact shortages of career opportunities onshore prompted an influx of people to the industry, mainly on the ratings side. On the officer side it is far too early to tell as we have to factor in the time they spend at university before joining up and becoming a statistic in this context.

The big question now is how big the shortfall of seafarers will be, particularly the shortage of competent officers, once the economy recovers enough to employ the merchant fleet more fully. And what impact will this have? Which sectors of the industry will be able to compete with higher salaries? Your guess is as good as mine, perhaps better.

However, putting recessions and salaries aside, what attracts people to go to sea today? It is probably not the opportunity to see the world, which it used to be back in the good old days. My personal view is that recruitment at a company level today is all about creating a positive and



professional atmosphere. This means engaging and recognising seafarers as the key-employees they are, trusting them, listening to them and honouring them as professional ship's officers and ratings. It also means treating them as human beings, as someone's husband, father, wife or mother and providing them with a meaningful, challenging and satisfying working environment. They should have a proper and stimulating home from home, one that includes the kind of amenities you might expect to find in someone's home ashore, such as a gym, a treadmill, a bike, Internet access and, of course, their own toilet and wash room facilities.



On a global level, industry associations, governments and others either in their own capacity or through collective efforts via bodies such as IMO, continue to campaign for youngsters to go to sea. They are conscious that without seafarers of the right calibre the industry will face a difficult and painful future. Let's face it, there are fantastic opportunities out there now. Never before have there been so many different sectors in the industry to choose between, such as cruise ships, offshore vessels, tankers, exploration ships and others. On the tanker side alone you can specialise in gas, oil or chemicals. It's like a ladder. The more skills you acquire the more attractive you become and, of course, your bank account will reflect this. Take into account the shortage of officers and the climb up the ranks is going to go even faster, no matter whether this is considered a good or a bad thing.

Despite the excellent prospects and salaries, the fact is that the industry at large has difficulty in attracting the younger generation. Depending on whom you ask you will get different answers on why this is the case. It seems that everyone has their own idea about why but nobody has the immediate solution to the problem.

Clearly, high salaries attract some entrants to the tanker industry but not in sufficient numbers. Is it therefore reasonable to assume that perhaps there are too many deterrent factors weighing in? Deterrents such as multiple inspections by charterers (vetting) and port states (PSC), long working hours, limited shore leave, low manning levels, fatigue, being away from family and friends, minimal accommodation standards, difficulties with visas, poor communication facilities, being subject to drug and alcohol tests, excessive amounts of paperwork, strict and constantly changed regulations and criminalisation. These are more than enough!

Actually the key to recruiting and retaining young seafarers is to sort out the deterrent issues mentioned above, at least if we are to believe - and we have no reason not to - what was pointed out by 20 young people in a focus group that INTERTANKO and ITF arranged and organised last year for young seafarers of seven nationalities. They expressed their views on a career at sea and on what attracted young people to the shipping industry in 2009. They pointed out every deterrent item above as a negative factor. Note, however, that those 20 still had chosen a career at sea but to remain there they asserted that almost all of these things must improve, especially the lack of shore leave and the feeling of being suspected of being a terrorist under the ISPS code.

INTERTANKO believes that all the negative factors should be assessed and, if possible, eliminated. The organisation is looking into how to provide better accommodation space, to improve and make available crew communication facilities, including Internet access, to ensure adequate shoreleave, to minimise the number of inspections, to limit unnecessary paperwork, to harmonise port entry requirements, to overcome burdensome visa requirements and more besides.

This is a process that we wish could be advanced easier and quicker. But we are not alone on this and we need to cooperate with all stakeholders, such as regulators, classification societies, shipbuilders, flag states, port states and human-element experts, among others, to achieve success. These are issues that will not go away overnight. At IMO's Maritime Safety Committee (MSC 87) in May 2010, INTERTANKO and the ITF will introduce two submissions as an immediate follow up on the Young Seafarers Focus Group. One is seeking a change in the ISPS code so as not to restrict shore leave for seafarers; the other is seeking an increase in the frequency and in the power of consideration of the human element whenever new requirements are developed or existing requirements are reviewed by IMO. These two submissions are bold, coming from non-governmental organisations, but we nevertheless feel strongly enough about the issues not to hesitate for a moment in submitting them. As I have tried to explain, INTERTANKO and our fellow shipping associations are also working on improving the image of shipping and increasing the attractiveness of the industry to encourage youngsters to choose a career at sea.

I am sure you all agree the industry is already a great one to be in and has ample opportunities although there is still room for improvement. However, no matter how hard we try to raise its profile just one ship accident generates negative headlines and images in every imaginable medium, which, of course, young, potential seafarers are exposed too. The general public's outrage often makes this negative image stronger, which forces politicians to find scapegoats. This is devastating for the industry and its efforts in attracting and recruiting young seafarers. I am, of course, thinking of cases such as the Hebei Spirit and its officers, who, through no fault of their own, were penalised and criminalised.

How can we expect youngsters to go to sea when facing imprisonment due to accidents like that? The last couple of years have seen many similar cases.

Another utterly ridiculous example of how negative the world has become is the story of Captain Laptalo, master of the Coral Sea, who was jailed in Greece when drugs were found stashed among the thousands of boxes of bananas his vessel was carrying from Ecuador. Or the master of Full City in Norway, or Captain Mangouras of Prestige or... well, the list can go on, for far too long, but I guess you get the point.

Criminalisation of innocent seafarers is of course just as unacceptable to INTERTANKO as it is to IFSMA and every professional seafarer, company, industry organisation and, I would hope, government.

We all have to stand up for our seafarers and protect our industry from this menace, something the industry has proved able to do when it has been necessary, although admittedly with limited success. Take, for example, the case of Captain Chawla and Chief Officer Chetan of the MT Hebei Spirit. There wasn't an association or organisation that didn't stand up for these two good officers. A plethora of alphabetical associations co-sponsored a submission to the recent MEPC 60 on this matter, a submission that was based on an expert witness statement made by INTERTANKO to the Korean Supreme Court. It highlighted that these officers had followed international and industry-established good practice but were nevertheless penalised and imprisoned. This proves that the

world is not perfect and that scapegoats apparently still have to be found. In this case the Korean public and the Korean legal system held the two senior deck officers responsible.

However, what cannot be misinterpreted is that the whole industry backed the two officers 100 per cent and made that abundantly clear, as numerous demonstrations on behalf of the two officers, campaigns, letters and submissions to IMO showed. The message is that the criminalisation of seafarers who are simply doing their jobs is not and never will be acceptable.

However, being reactive is not good enough. We need to be proactive.



So INTERTANKO has been and is still challenging new legislation in the EU, the US and elsewhere that we see as a threat to our industry and, not least, to our seafarers. Together with a few other industry stakeholders INTERTANKO took the European Commission to the European High Court in 2006 because it felt that the EU Directive on ship-source pollution conflicted with international law (Marpol) and prejudiced the rights of seafarers and others in the shipping industry.

INTERTANKO has also been active in the courts in the US, where it has initiated litigation in response to the state of Washington's regulation that imposed requirements for watch practices, towing and navigation equipment and reporting requirements, and other rules that differed from the controlling federal and international rules. INTERTANKO has also been active in a case involving the state of Massachusetts regarding oil spills and fines.

Furthermore, in an appeal to governments, we have been urging the practice of reasonable and fair treatment following an accident. In the year of the seafarer surely this cannot be asking too much? In fact we are suggesting that the 'Guidelines on fair treatment of seafarers in the event of a maritime accident' are made mandatory.

The message that I would like to convey to future and existing members of IFSMA and seafarers all over the world is that should you by any account be subject to unjustified unfair treatment or criminalisation, INTERTANKO and the rest of the shipping community care about it and will always be standing behind you.

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**Inséré le 25/04/12 – Historiek Historique – Enlevé le 25/05/12**

## **Van bunkerschip tijdens WOII tot apostolaat der schippers**

De opbouw uit 1952 werd aanvankelijk in belangrijke mate gerealiseerd door het gebruik van gerecupereerde materialen uit de aankoop van uitneembare noodwoningen. Later werden bedaking, buitenwanden en buitenschrijnwerk vervangen en geïsoleerd.



Het Antwerps Kerkschip blijft nog enkele maanden langer op zijn vertrouwde plek nabij de Lillobrug liggen. Het schip zou dit jaar verhuizen naar het Houtdok, maar dat wordt uitgesteld omdat de nutsvoorzieningen op de nieuwe locatie nog niet klaar zijn. Het schip verhuist nu waarschijnlijk pas volgend jaar. De verhuizing is nodig omdat het Havenbedrijf Antwerpen de huidige ligplaats aan kaai 526 wil gebruiken als een schuuldok voor duwbakken. Het Kerkschip ligt er sinds 1969. De toekomstige ligplaats van het schip bevindt zich dicht bij het MAS en het stadscentrum. Dat kan een kans zijn om meer bezoekers aan te trekken.

### **WO II**

Door het gebruik van magnetische zeemijnen door de Engelse marine in de beginfase van WO II, kreeg de Duitse marine problemen met de bevoorrading van haar vloot. De oorspronkelijk in staal gebouwde bevoorradingsschepen, en allerhande opgeëiste stalen vaartuigen die ook voor dit doel werden ingezet, waren gemakkelijke prooien voor deze oorlogswapens. Vanaf de tweede helft van de 19de eeuw had men al geëxperimenteerd met het bouwen van scheepsrompen in gewapend beton en er waren ook al ervaringen met deze bouwwijze voor grotere schepen tijdens WO I. Maar nu kwam de bijkomende eigenschap dat betonnen scheepsrompen niet magnetisch waren heel goed van pas in een poging om weerwerk te bieden tegen deze mijnen. Het bleek ook een geschikte bouwmethode te zijn om extra wanddikte te creëren als bescherming tegen de inslag van granaten, mortieren, en ander geschut. Net zoals bij de verdedigingsconstructies op het

#### **Gegevens:**

Type: Betonnen bunkerschip uit WO II  
Omgebouwd tot kerkship als apostolaat der schippers in 1952  
Bouwjaar: 1942-1944  
Werf: Bouwplaats: Rotterdam  
Bouwer: "La maison Saintrap et Brice" gevestigd in Parijs.  
Bouwmethode: Romp: massieve betonschaal op betonnen spanten.  
Afmetingen: lengte over alles: 95,85 meter  
Lengte tussen schotten: 85 meter  
Grootste breedte: 14,25 meter  
Diepgang: 6,50 meter  
Hoogte van voor- en achterdek: 10,35 meter  
Gewicht casco: +/- 3.800 ton  
Voortstuwing: Niet aanwezig

land werd dan ook betracht om de bevoorradingschepen uit te voeren als echte "bunkers" in de zin van versterkte constructies. Het nadeel van een groter constructiegewicht ten gevolge deze bouwmethode speelde hier minder een rol aangezien de rompen zeer volumineus werden ontworpen in functie van het opslaan van brandstoffen, drinkwater en andere bevoorradingsgoederen. Het bunkerschip ("bunkereren" in de zin van "bevoorraden") waarvan hier sprake, werd in Rotterdam gebouwd tussen 1942 en 1944 en pas op het einde van de oorlog naar Antwerpen versleept met het doel om daar verder te worden gemotoriseerd en uitgerust. Door het einde van de oorlog komt het echter niet zover en wordt het schip door de Belgische staat in beslag genomen en openbaar verkocht. Het werd dan eerst gebruikt als opslagschip voor kolen in navolging van de zgn. "kolenslag", opgezet door minister Achille Van Acker kort na WO II, in een poging om de naoorlogse Belgische industrie terug leven in te blazen. Het logge, diep liggende en moeilijk wendbaar en niet gemotoriseerd schip was echter niet geschikt om verder te worden ingezet op de binnenwateren en bleef meer aan de kade liggen met zijn opslagcapaciteit als enig overblijvende functie.

In 1950 werd door de toenmalige eigenaar, de firma Antoine Vloerberghs, het schip aangeboden aan het Aartsbisdom Mechelen om het om te bouwen tot een kerkelijk en sociaal centrum voor de binnenvaartschippers en hun families.

### **Inrichting en uitbouw als "Kerkschip"**



*Kerkschip St Jozef: vooraanzicht.*

Door de gedrevenheid van de toenmalige aalmoezenier J. Van de Busch en het enthousiasme van de schippersgemeenschap, werd het schip, in den beginne ook met allerhande hergebruikt materiaal, ingericht en omgebouwd tot een plaats voor de eredienst en als ontmoetingscentrum. Het kreeg op 1 oktober 1952 als "Kerkschip Sint-Jozef" een eerste ligplaats aan het 1ste

Havendok nr.112. Het werd daar achterwaarts afgemeerd: in het achterschip werden, de nu nog zichtbare, openingen gemaakt om met loopplanken een permanente toegang vanaf de kade mogelijk te maken. Naar verluidt kwamen ook talrijke binnenschepen langs zij liggen en werd het een algemeen gekend baken en rustpunt in het leven van de varende schippersgemeenschap.

Momenteel ligt het schip afgemeerd aan de Noorderlaan in Antwerpen ter hoogte van haven 526. Tot op vandaag functioneert het als apostolaat der schippers en worden er naast de erediensten ook talrijke sociale activiteiten georganiseerd. De cafetaria is ook een dagelijks trefpunt voor allen die betrokken zijn bij de diverse havenactiviteiten. Als "Kerkschip" kreeg het voormalig bunkerschip een tweede leven.

### **Scheepsbouw in gewapend beton of "ferrocement"**

Het experimenteren met de mogelijkheden van het nieuwe materiaal: de combinatie van ijzeren structuren of wapening gevat in een gietmassa samengesteld uit de menging van een bindmiddel en allerhande granulaten zoals zand en keien, gaat terug



tot midden 19de eeuw. Naast de gekende toepassing in de bouwkunde vond het ook ingang bij meer vormelijke toepassingen zoals de uitvoering van tal van sierobjecten in park- en tuinarchitectuur.

De Fransman Joseph-Louis Lambton (22 mei 1814 - 2 augustus 1887) wordt beschouwd als de pionier van het ferroceement en paste het toe in constructies voor de land- en tuinbouw zoals plantenbakken en opslagtanks. Hij is het die in 1855, vermoedelijk als eerste, een betonnen roeibootje bouwt, er een brevet voor aanvraagt en het tentoonstelt op de wereldtentoonstelling in Parijs. In deze eerste toepassingen van het nieuwe en veel belovende materiaal wordt een netwerk van staaldraad verder aan- of opgevuld met mortel. Als de beoogde vorm het toeliet werden ook giettechnieken gebruikt. Niet verwonderlijk dat er ook verder werd gezocht en geëxperimenteerd in de wereld van de botenbouw omwille van de mogelijkheid om de complexe en geronde rompvormen te realiseren. Er worden al vrij snel commerciële boten gebouwd, bijvoorbeeld sinds 1860 voor de binnenscheepvaart in Nederland. Maar door verder te werken op de constructiewijzen zoals toen gebruikelijk bij de traditionelere houten botenbouw, waren het ferroceement methodes veel arbeidsintensiever dan de toen ook opkomende scheepsbouw in ijzer en later in staal. Het is het gebrek aan dat staal dat tijdens WO I heeft geleid tot een beperkte ophang van deze bouwmethode zowel in Duitsland als in de VS. Maar terug speelt de lange constructietijd parten. Bij de grootste gekende exemplaren van deze bouwmethode behoren de in 1919 in de vaart genomen tankerschepen "SS Latham" en "SS Selma", gebouwd in VS. Alabama; de laatste ligt nog als wrak half boven water in Galveston Bay, Houston, VS. Met een lengte van 125,70 m en nettotonnage van 4.225 T. behoren ze tot de grootste ooit gebouwd in dit materiaal.



Kleine kapel

De romp van het "Kerkschip" heeft een lengte van 96 m. De kennis van het gewapend beton leidde in het midden van de 20ste eeuw ook tot een efficiëntere techniek bij de toepassing in de botenbouw namelijk de schaalconstructies.

De evolutie van de spanten als bijkomen de constructies voor de sterkte en verstijving van de romp weggelaten. Een bestudeerde plaatsing van wapeningsstaven en stalen netten in de dikte van de romp zeil moeten de krachten opnemen waardoor de effectieve ruimte in

de romp beter en met een grotere flexibiliteit kan ingericht en gebruikt worden. Er vond echter geen echte commerciële doorbraak plaats, mogelijk ten gevolge de gelijktijdige opkomst van de kunststofbouwmethodes (zoals glasvezel - polyester) en de gelaste staalplaatconstructies die, naargelang het toepassingsgebied, een snellere en dus goedkopere constructietijd opleverden. Sinds midden 19de eeuw werden echter de verschillende varianten van de betonbouw of ferroceement toegepast op diverse scheepstypes zoals kano's, roeiboten, zeil- en gemotoriseerde jachten, vrachtschepen, kustvaarders, landingsvaartuigen, etc. De romp van het Kerkschip werd in opdracht van de Duitse bezetter in 1942-1944 in Rotterdam gebouwd onder leiding van het constructieatelier "La maison Saintrap et Brice" gevestigd in Parijs. (Dit atelier wordt ook vermeld als bouwer op het einde en na WO II van tal van betonnen maritieme constructies op het land zoals loodsen en vuurtorens).

Bij het bouwen baseerde men zich echter nog steeds op de methodiek van de traditionele houtbouw door gebruik te maken van spanten, stringers en wrangen. Deze werden samen met de romp bekist wat de lange bouwtijd met zich meebracht. Blijkbaar had men nog geen voldoende kennis van en/of



vertrouwen in de toen reeds gekende schalenbouw. Zicht in de kale ruimte van de romp met achteraan één van de dwarsschotten die de romp in verschillende compartimenten verdeelt. Ongetwijfeld is de romp van het "Kerkschip" één van de gaafste overlevende exemplaren van die grootte voor de Europese geschiedenis van de botenbouw in ferrocement of gewapend beton. Een hoge materiaalconcentratie omwille van de kwaliteit als "bunker" dat van het bevoorradingschip werd verwacht. Inrichting als apostolaat der schippers: Bij de herbestemming in 1952 als apostolaat der schippers werden de bestaande romp en spantconstructies behouden, werd een deel van de romp ingericht, maar werd hoofdzakelijk op het bovendek een toegevoegde constructie opgebouwd.



haar opdracht en werking heeft kennenuitvoeren "Kerkschip" een ruimere sociaal-culturele verankering gebracht. De verankering van deze werking in een relevant schip is op zich een uniek gegeven.

De opbouw uit 1952 werd aanvankelijk in belangrijke mate gerealiseerd door het gebruik van gerecupereerde materialen uit de aankoop van uitneembare noodwoningen. Later werden bedaking, buitenwanden en buitenschrijnwerk vervangen en geïsoleerd.

Er werd ook een woning voor de aalmoezenier ingericht met bijkomende burelen vergaderruimte voor de werking van de huidige vzw. "Apostolaat der schippers". Opvallend is dat sinds de opstart in 1952, het

Zicht in de kale ruimte van de romp met achteraan één van de dwarsschotten die de romp in verschillende compartimenten verdelen.

apostolaat ononderbroken waardoor het heeft tot stand historisch

ALPHONSE DUWEL

### **Ruimschoots n° 4 2011**

**Inséré le 27/04/12 – NEWS – Enlevé le 27/05/12**

## **A harrowing break in convention**

Efforts to contain the piracy crisis have come to a political head with the continued detention of seven Indian seafarers in Somalia, despite the payment of a ransom *writes Helen Jauregui*.

Owners and managers' hopes for a new era in the fight against piracy appeared to be granted on 7th April when in Washington DC, 39 year old Jama Idle Ibrahim of Somalia pleaded guilty to conspiracy to commit piracy under the law of nations, and conspiracy to use a firearm during and in relation to a crime of violence.

He was sentenced to 25 years in prison for committing a violent act of piracy onboard the Clipper Group-owned cargo vessel CEC Future – an ordeal which began in the Gulf of Aden during November 2008 and lasted 71 days. Armed with AK-47s, a rocket-propelled grenade and handguns, pirates seized the vessel and held 13 crew members hostage before receiving a \$1.7million ransom from the Clipper Group and releasing the vessel on 16th January 2009.



This historic ruling marks the first conviction in which an individual has been sentenced for a hijacking, rather than an attack of piracy alone and was hailed by US Attorney Ronald C. Machen Jr. (who announced the sentence) as "a just punishment for this attack that threatened international commerce and human life". This was a much welcome development within an area of crime where a policy of 'catch and release' has been frequently used, owing to a lack of nations prepared to undertake the diplomatic burden of holding and prosecuting those individuals accused of piracy.

However, this notable prosecution was soon overshadowed by news of the continued detention of seven Indian seafarers in Somalia, despite the payment of a ransom, in a move which represents a major shift in expected practices between vessel owners and pirates.

The 1991 built asphalt/bitumen tanker The Asphalt Venture was captured on 28th September 2010. Following an agreement in which the full release of the vessel and all 15 crew was stipulated, the ship was released on 15th April but the Master has confirmed that six officers and one rating were taken off the tanker by the pirates, who ordered them ashore. At the time of going to press, the whereabouts of these seafarers is still unknown.

One theory as to why the pirates chose not to honour their agreement concerns the arrest of Somali pirates by the Indian Navy in the weeks prior to the incident. It is thought the pirates may have chosen to extend the incarceration of the seven hostages in retaliation of these arrests and this marks a significant change in expected piracy negotiations, from being simply between the ship owner and pirates, to between the government also.

However, some quarters of industry have expressed their disdain at the suggestion that negotiations are no longer the responsibility of the vessel owner, but that of the Government of India solely. Abdulgani Y. Serang, General Secretary and Treasurer of the National Union of



Seafarers of India (NUSI) said the owner should not make attempts to "shirk away from its responsibility" towards ensuring the safety of its seafarers.

An organised gathering of NUSI activists took place on 7th May outside the Mumbai office of the vessel's management company, OMCI Shipmanagement, as part of the union's campaign to ensure the well being of detained seafarers remains a focal point, amid fears that in cases where the vessel and cargo have been returned, the crew may become a lesser priority.

The NUSI also organised an extensive protest across India on Wednesday 27th April, with over 3,000 seafarers taking part in rallies in Mumbai, Chennai, Diu, Kochi, Tuticorin, Kolkata, Chiplun and Dehra Dun. Marking the plight of captured crew from The Asphalt Venture and beyond, seafarers in each city handed petitions to the authorities and marched in solidarity, holding banners with slogans – one of the most popular being a call for governments to 'wake up' and make the seas 'pirate safe'. The case of The Asphalt Venture has indeed been a rude awakening for industry in highlighting how volatile and unpredictable pirates have now become in their tactics.

The Shipping Corporation of India (SCI) has also been a victim of piracy in recent months, as two vessels owned and operated by the company had the misfortune to be attacked. The Suezmax Tanker Guru Gobind Singh was fired upon during November 2010 and sustained damage to the hull, while on 28th February 2011, the crude tanker Desh Prem was also subject to an attempted hijacking. With around 30 seafarers onboard each vessel, both Masters followed best management practices and speeded up/zigzagged the vessels to successfully foil these attacks.

Capt Sunil Thapar, Director in charge of the Shipping Corporation of India's Bulk Carrier and Tanker Division acknowledged that his company is 'on tenterhooks' while operating in affected areas but said the SCI has been active in protecting its fleet at large by adopting all safeguarding precautions in line with compliance circulars from sources such as the IMO, BIMCO and the Indian Flag administration.

Commenting on the problem of pirates taking a ransom then failing to release hostages, he added: "This is an extremely unfortunate thing to have happened because previously, we all thought piracy was a question of ransom alone but now it seems there are other angles to it because the Indian navy has been proactive in protecting its merchant vessels from piracy attacks."

As fears intensify over such repercussions, the Indian Flag is now debating the issue of providing armed guards onboard its ships. Noting the contentious nature of this issue, Capt Thapar said: "Personally I am not sure if this is a good idea. There is a possibility that if innocent merchant vessels take arms onboard, this could encourage pirates to use more force in their attacks. That said, statistics show that so far, vessels which use armed guards have not been attacked. Some of the seafarers are asking for armed guards onboard because they feel more protected by this and I don't blame them. Tomorrow, any of our employees could say I'm not sailing through here!' Hand on my heart, I feel for them. Best management practices and the assistance of the navies of India and other countries are extremely helpful."

At this time, a vessel owned by a subsidiary joint venture company of the Shipping Corporation of India but which requested not to be named, is being held ransom by pirates. As a spokesperson told *SMI*, the pirates are becoming more unreasonable in their ransom demands: "We have been upping the offers on this side but nothing is happening because it started as \$11 million and now it's stuck on around \$6million on the pirates' side. Also, it has to be done in cash.

The owners have been pleading with the pirates to release the vessel but she is still held for ransom off the Somali coast."

There are over 20 seafarers onboard the captured vessel. Apart from periods where the crew are allowed access to the deck in batches to perform ship maintenance duties, they are under armed guard on the bridge 24/7. Even if a seafarer wishes to go to the toilet, he must be escorted by a pirate.

Though many would presume ransom negotiators to be Somali-based, affected companies have described the transformation of piracy into an organised occupation which now transcends conventional patterns.

Capt Thapar again: "I think piracy has gone beyond the shipping companies and expected norms to become an organised business with major players said to be sitting in London and Ireland. It is understood that the moment a vessel gets hijacked, the negotiator is the first person to call up and he's usually London-based. Negotiations might start at something like \$10 million and if you don't start to negotiate with at least 35% of that, you will not even come close."

Capt Thapar added that countries where deals are struck should act positively in bringing ransom negotiators to justice, while navies from other nations should join their Indian counterparts under a common, possibly UN command, in the fight against hijackings – particularly since the location of Somali pirate vessels may be readily available through modern technology such as satellite imagery.

He concluded that as the affected area is now vast, the best solution may be to fight pirates in their local area or to confront mother ships directly.

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**Inséré le 29/04/12 – NEWS – Enlevé le 29/05/12**

## **Banned in Bangladesh, toxic ship heads to India**

After being banned in Bangladesh, a toxic-laden ship, **Probo Koala**, is headed towards Indian shores for dismantling, a global group of activists called 'NGO Shipbreaking Platform' has warned. The ship, a 1989-built oil carrier cargo vessel weighing 31,255 tonnes now named Gulf Jash, was banned from entering Bangladesh waters recently after environmentalists in neighbouring countries warned the government about it. The ship has been in the thick of controversy in Africa and Europe. Its previous owner, a company called Trafigura, tried to offload its on-board toxic material in Amsterdam. It was detected in time and when the authorities imposed heavy charges for proper disposal, the company decided to instead send the ship to Africa. After trying its luck in Nigeria, the company finally found a dealer in Ivory Coast to dump the chemicals off board.



Hundreds of tonnes of toxic chemicals were poured into the country's largest city, Abidjan. NGO Shipbreaking Platform said the toxic dumps lead to the death of 16 people and thousands of people falling ill. The company had to reportedly settle cases out of court by paying out 30

million pounds to the victims and nearly 100 million pounds to the Ivory Coast government for clean up though the company never officially accepted blame.

The ship, environmentalists warn contains many tonnes of hazardous asbestos, PCBs, toxic paints, fuel and chemical residues which have not been cleaned up before sending the ship for breaking down. Activists have been demanding for years that ships owned by companies in the developed world should be rid of all toxic material before being sent to shipyards in poorer countries. But the global shipping companies, vary of the costs involved, have preferred not to do so on several occasions. While the Basel Convention, an international treaty, prevents rich countries from transporting hazardous waste and chemicals to developing countries without prior information, the shipping firms and those in the market for dismantling old ships get around the treaty quite easily. The ships are registered in developing countries under shell companies carrying what are called 'flags of convenience' which permit them to bypass the treaty.

The **Probo Koala** is registered in Panama. The last confirmed owner of the ship was a group called GMS, which has faced charges of trying to smuggle out another dirty ship in the US. The ship,

**Oceanic**, finally reached India for breaking. GMS also made an out of court settlement with the US Environmental Protection Agency (EPA) and paid more than half a million dollars.

India has also faced two high profile cases -- those of **Clemenceau** and **Blue Lady** -- though the shipyards at Alang continue to break hundreds of ships even after that. Besides India, Bangladesh, Pakistan and increasingly China have become the world's junkyards for retired ships. In developed countries, laws and the costs involved make dismantling ships a prohibitive exercise. The low cost of labour, lax standards and even worse monitoring has made South Asia a ship-breaking hub. An added attraction is the steel taken out of these ships, which comes in handy for the insatiable markets in Asia.

China has been gaining in the market for junk ships by setting up modern facilities, unlike those in India. Ritwick Dutta, the Indian representative of NGO Shipping Platform has warned that after Bangladesh banned the entry of the ship, its most probable destination is India. "Shipbreaking takes place directly on tidal beaches such as the one at Alang, which makes the safe use of cranes and emergency access impossible. The ships are broken down by hand, their structure cut open by igniting cutting torches," he told TOI.

"India does not seek certificates from owners on the ship having been cleaned of toxic chemicals and gases. This threatens workers and leads to pollution in the tidal waters," he said.

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**Inséré le 01/05/12 – NEWS – Enlevé le 01/06/12**

## **“Manoeuvring at close quarters under power”.**

**Door : Frank NEYTS**

Bij Adlard Coles Nautical verscheen **“Manoeuvring at close quarters under power”** samengesteld door Bill Johnson. Dit boekje is een unieke, bijdehandse gids, ideaal op de brug van een (motor)jacht of als referentiewerk aan boord. Manoeuvreren van een jacht in nauw vaarwater in een marina in de nabijheid van heel wat andere afgemeerde, zeer dure vaartuigen, kan een ware uitdaging vormen voor de onervaren roerganger. Zelfs voor een ervaren zeiler blijft dit vaak een zenuwslopende opdracht.

Voeg daarbij sterke stromingen, slechte zichtbaarheid, onvoorspelbare windstoten en de opdracht wordt helemaal een uitdaging. Dit boekje, prachtig geïllustreerd en zeer duidelijk, stap-voor-stap geschreven, biedt bij het af- of aanmeren een houvast. Een aanrader voor iedereen die zich op het water begeeft.

**“Manoeuvring at close quarters under power”** (ISBN 978-1-4081-3211-1) kost £14.99 en telt 128 pagina's.. Bestellen kan via de boekhandel, of rechtstreeks bij de uitgeverij Adlard Coles Nautical, 38 Soho Square, London W1D 3HB,UK. [www.adlardcoles.com](http://www.adlardcoles.com)

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**Inséré le 03/05/12 – NEWS – Enlevé le 03/06/12**

## **European Commission proposes tighter laws on ship breaking Laws for safe and environmental friendly working conditionals in shipbreaking yards**

The European Commission proposed new rules to ensure that European ships are only recycled in facilities that are safe for workers and environmentally sound.



More than 1000 large old commercial ships, such as tankers and container vessels, are recycled for their scrap metal every year, but many European ships end up in substandard facilities on the tidal beaches of South Asia. These facilities mostly lack the environmental protection and safety measures needed to manage the hazardous materials contained in end-of-life ships. These

include asbestos, polychlorinated biphenyls (PCBs), tributyl tin and oil sludge. This leads to high accident rates and health risks for workers and extensive environmental pollution.

The new rules, which will take the form of a Regulation, propose a system of survey, certification and authorisation for large commercial seagoing vessels that fly the flag of an EU Member State, covering their whole life cycle from construction to operation and recycling.

This system builds upon the Hong Kong Convention for the safe and environmentally sound recycling of ships, which was adopted in 2009. Today's proposal aims to implement the Convention quickly, without waiting for its ratification and entry into force, a process which will take several years. To speed up the formal entry into force of the Hong Kong Convention, the Commission also presented today a draft decision requiring Member States to ratify the Convention.

Under the new system, European ships will have to draw up an inventory of the hazardous materials present on board, and apply for an inventory certificate. The amount of hazardous waste on board (including in cargo residues, fuel oil, etc.) must be reduced before the ship is delivered to a recycling facility.

Ship recycling facilities will have to meet a set of environmental and safety requirements in order to be included on a list of authorised facilities world wide. European ships will be allowed to be recycled only in facilities on the list. Some of the requirements to be met by the ship recycling facilities are stricter than those foreseen by the Hong Kong Convention. This will ensure better traceability for European ships, and will guarantee that the waste resulting from dismantling (and any hazardous materials it contains) is managed in an environmentally sound way. To ensure compliance, the proposal requires ship owners to report to national authorities when they intend to send a ship for recycling. By comparing the list of ships for which they have issued an inventory certificate with the list of ships which have been recycled in authorized facilities, authorities will be able to spot illegal recycling more easily. The sanctions proposed in the Regulation will also be more specific and precise.

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**Inséré le 05/05/12 – OPEN FORUM – Enlevé le 05/06/12**

## **The involvement of human factors in maritime incidents**

**Bob Thomson**  
**Former Principal Adviser Analysis**  
**Government & International Coordination Maritime Standards Division**  
**Australian Maritime Safety Agency**

In my previous article: **Human Element?1**, I indicated that at present there are no internationally recognised and accepted definitions for all of the various human factors that might be responsible for any particular incident. I proposed a number of defining human factors that might be used as a common starting point.

A consideration of the involvement of human factors in maritime incidents requires a three-stage approach – definition, measurement and analysis. By applying such a scientific approach, it is possible to determine from the analytical stage not only the causal factors in each incident but also, to apportion responsibility for the incident between those causal factors.

Having already considered definitions, I now want to turn to measurement. Unfortunately, significant problems also arise when considering the measurement stage of the process. Firstly human factors are, by their very nature, subjective rather than objective and so can be difficult to measure. Secondly, the threat of litigation prevents maritime authorities from apportioning blame to the various factors involved in any particular incident.

Looking at the question of subjective versus objective, it is true that it is possible to measure factors like the amount of alcohol or other substance in a person's blood stream and it is also possible to make a reasonably accurate assessment of the influence of fatigue on a person's ability to function. However, in an incident it is likely that a range of human factors were implicated in the outcome and therefore the question of the impact of each of those factors together with the effect of the interaction of the factors also needs to be measured.

The interaction of more than one factor in an incident may therefore be considered as being very difficult to determine. I would argue however that it is not as difficult as it might appear at first sight and I'll come back to this point later.

Now to the second problem identified earlier – litigation. The Australian national regulator (AMSA) investigates maritime incidents, while the ATSB also conducts investigations of more serious incidents, such as those involving death. To avoid the possibility of involvement in litigation, the ATSB publicly declares that their function is not "to apportion blame or determine liability." In the case of reports from both AMSA and the ATSB therefore there is no consideration of the impact of human factors in a way that would allow apportionment of responsibility for the incident.

While I have enumerated good reasons for NOT apportioning blame, nevertheless there are compelling reasons for doing so. The main benefit is to know exactly what factors were involved and the amount of responsibility of each of those factors. In this way, resources can be allocated appropriately to develop and implement strategies to reduce the influence of those factors in the future.

How to do this and avoid investigators and regulators being involved in litigation? This can be achieved by simply not releasing the information in individual investigation reports publicly. I would argue that benefits can still be achieved if this data is released in an aggregated form, say on a yearly basis. Another benefit of aggregating the data is the possibility of detecting systemic problems that might not be apparent when considering the outcomes from individual incidents.

Analysis of the human factors measurement data should be the responsibility of the national regulator. Both the Navigation Act and the OH&S(MI) Act require that reports of injury/illness, dangerous occurrences, machinery and equipment failure, collision, grounding, close quarters etc. be provided to the national regulator. It is also a responsibility of the national regulator to

investigate these incidents. Apart from identifying the role human factors have in causing incidents; the national regulator would also be able to detect increasing or reducing trends through the analysis stage. In this way it could be seen whether strategies were working or not and therefore the regulator would have the opportunity to redirect its resources more appropriately

Let us return to the question of subjective rather than objective assessment. The persons conducting investigations are highly trained specialists with many years experience in the maritime industry and I believe there is no good reason not to be able to trust their judgement in making assessments as to the apportionment of blame in maritime incidents. It is true of course that investigators would need specialist human factors training to ensure that consistent meaningful findings were achieved from all investigators.

A database of incident reports and "near misses" is a valuable resource that can be utilised to reduce the impact of human factors in future maritime incidents if the data is analysed and findings reported on a regular (say annual) basis. This of course assumes that the responsibility of the human factors involved in each incident has been apportioned. This will involve at least some investigation into each incident to determine the influence of the human factors contributing to the incident.

As indicated previously, the analysis should use aggregated data and not identify individual incidents. From data gathered over a period of time, say two to three years as a minimum, it is possible to observe if particular ships or operators or industry sectors have had incidents involving particular human factors, like say alcohol or drugs, over that period and devise strategies to minimise the impact of that factor in the future, through education, training and/or regulation. Obviously, the national database must be set up in such a way that such trends can be detected.

Just publishing the results of such analyses and ensuring that ship owners, masters and operators can access these results, will allow the industry itself to see areas of weakness and take steps to implement strategies to lessen the impact of these factors on their ships.

Trends identified might be increasing or reducing and will therefore be a valuable tool for the regulator in allowing scarce resources to be directed to the area of most need. It also allows the regulator to determine the success or otherwise of strategies that have been implemented to correct increasing trends detected in the past. Successful strategies can then be shared with other jurisdictions to assist them in reducing incidents.

Additionally, if national regulators provide the results of these annual analyses to the IMO, that august body would have the data to allow it to detect world-wide trends and be able to assist regulators in developing countries with the development and implementation of strategies to reduce the impact of human factors in incidents occurring in the waters over which they have control.

The IMO presently receives reports from jurisdictions that collate data from individual incident reports. Were those aggregated reports to include the apportionment of human factors' responsibility in incidents, the IMO would be in a position to analyse the international data and make this available in an aggregated form publicly and this would give developing nations, where much of the death and injury toll from maritime incidents occurs, the opportunity to take appropriate remedial action without the need for significant expenditure of their own scarce resources.

Finally, I need to emphasise that responsibility for reducing the impact of maritime incidents, both in terms of the numbers of deaths and injuries and property loss and environmental damage does not rest solely with national regulators. Individual crew members, ships' masters, owners, operators, agents and industry sectors have the primary role in reducing the number of maritime incidents.

I want now to discuss in more detail the role that national maritime regulators can play in reducing the impact of human factors in maritime incidents through the analysis of data in incident and investigation reports.

Serious accidents and incidents are thoroughly investigated and the accident investigation reports give us the why and how so that similar incidents might be avoided in the future. However, less

serious incidents and “near misses” in most cases are not investigated, even though they are reported (or at least are required to be reported). Such incidents also have valuable lessons for the maritime community and because there is a requirement for them to be reported, can provide insights into trends that might be occurring.

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**Inséré le 07/05/12 – HISTORIEK HISTORIQUE – Enlevé le 07/06/12**

## **Boot en Schip**

In het tegenwoordige Nederlands zijn boot en schip in hoge mate synoniem. Dat geldt ook voor de tegenhangers van dit duo in de andere Westgermaanse talen: Engels boat/ship, Duits Boot/Schiff en Fries boat/skip. In tal van gespreksituaties zijn boot en schip inwisselbaar. Als je bijvoorbeeld vanop de kade of het strand de zee overschouwt en de vaartuigen aan de einder telt, dan kun je die zowel boten als schepen noemen. Toch valt het toepassingsveld van beide woorden niet honderd procent samen. Waar zit dan het verschil? En wat schuilt etymologisch achter beide termen?

De nauwe betekenisverwantschap tussen beide woorden blijkt uit de vele synonieme samenstellingen met identieke voorbepaling en met ofwel boot, ofwel schip als tweede deel. Zo vind je in de Grote Van Dale en/ of het Woordenboek van de Nederlandse Taal (WNT) o.a.: admiraalsboot/-schip, koopvaardijboot/-schip, oorlogsboot/-schip, passagiersboot/-schip, stoomboot/-schip, vissersboot/-schip, vrachtboot/-schip, zeilboot/-schip,... en ga zo maar verder. Waar zit dan het verschil? Het antwoord is niet te vinden in de moderne woordenboeken van het Nederlands. Dat een boot een kleiner vaartuig zou zijn dan een schip, zoals gezegd wordt in Van

Dale en het WNT, klopt niet.



Er bestaan ook grote boten, denken we maar aan de reusachtige passagiersboten die migranten naar de nieuwe wereld brachten, of de zogenaamde Kongoboten, die van Antwerpen naar Matadi voeren. Er is ook wel beweerd dat een schip uitsluitend

bestemd is voor

de zeevaart, maar wat doe je dan met synoniemen als binnenschip en rivierschip? In onze huidige standaardtaal is boot een algemenere term dan schip. Zowat elk vaartuig kun je een boot noemen: van een simpele prauw over een rivierboot tot een machtig zeeschip. De algemeenheid van het woord boot blijkt ook hieruit, dat we steeds geneigd zijn dat woord te gebruiken als ons wordt gevraagd een bepaald vaartuig, groot of klein, te beschrijven.

Als iemand bijvoorbeeld vraagt: “Wat is een vliegdekmoederschip?” dan is er veel kans dat je antwoordt: “Dat is een hele grote oorlogsboot met een dek waarop vliegtuigen kunnen landen”.

Vraag: "Wat is een containerschip?", mogelijk antwoord: "Een boot die containers vervoert", etc. Boot scoort dan ook aanzienlijk hoger dan schip qua gebruiksfrequentie (bv. op [google.be](http://google.be) [juni 2011]: 336.000.000 hits voor boot, tegenover "slechts" 4.620.000 hits voor schip). Alle schepen zijn boten, maar niet alle boten zijn ook schepen. Een indianenprauw, een zodiac, een roeibootje of een kano zal je nooit een schip noemen. Dat lijkt erop te wijzen dat onder schip vooral grotere vaartuigen worden verstaan. Maar toch: een kleine vissersboot kan men ook een schip of een sloopje noemen. Maar wat de prauw, de kano en het roeibootje missen, is een dek!

Het belangrijkste onderscheidende kenmerk van een schip is dus wellicht dat het een vaartuig is met een dek. Let wel: dat is vandaag zo, maar het was vroeger blijkbaar anders. Het woord schip kon ooit ook kleine, open vaartuigjes benoemen, getuige binnenlandse toponiemen als Schipgracht, Schipvaart, Schiplede etc. De vaartuigen waar deze eigennamen voor soms kleine waterlopen (gracht, lede) op zinspelen, moeten kleine, open bootjes zijn geweest, die waarschijnlijk vanop de oever werden voortgetrokken. Volgens de historische woordenboeken zag de verhouding tussen boot en schip er in de oudere stadia van onze taal inderdaad anders uit dan vandaag. Het thans meest gebruikte en ruimst toepasbare van de twee, boot, was in het Middelnederlands duidelijk minder frequent dan schip: in de Middelnederlandse woordenboeken (VNMW en MNW) staan onder boot maar een beperkt aantal attestaties, onder schip zijn dat er veel meer. Bovendien is boot in het Nederlands jonger dan schip: de oudste vermelding van boot dateert "pas" van 1293. In de Keure van Calais staat: "Quod nullus emat pisces recentes in baten ad opus extranei" .iij. lb. (Dat niemand verse vissen kope in (kleine) boten ten behoeve van een vreemde: [boete 3 pond.]) Schip daarentegen bestond zeker al in het Oudnederlands, getuige de vele oude, al in de 12e eeuw geattesteerde toponiemen met dat woord (zie o.m. het ONW online <http://gtb.inl.nl/ONW>).

Bekijken we de overlevering uit de oudste fasen van de Germaanse talen, dan blijkt schip in al die talen geattesteerd te zijn, terwijl van boot alleen sporen worden gevonden in het Oudengels (*bát*) en het Oudnoors (*beit*, *bátr*, nog als *bót* bewaard in het Zweeds). Het lijkt er dus op dat de geografische gebruikssfeer van boot oorspronkelijk beperkt was tot Scandinavië en Engeland, en dat het woord in de andere Westgermaanse talen dan het Engels – Nederlands, Duits en Fries – terecht is gekomen door ontlening. Het is dan wellicht ook geen toeval dat boot in zijn oudste Nederlandse vindplaats dezelfde klinker heeft als in het Oudengels.

## EN DE ETYMOLOGIE?

### *BOOT*

Voor boot reconstrueert het Etymologisch Woordenboek van het Nederlands (EWN) een Germaanse grondvorm *\*baita*, die terug zou gaan op een Indo-Europese verbaalwortel *\*bheid*, die ook in *bijten* en *beitel* zit. De oorspronkelijke betekenis zou 'splijten, doorsteken' zijn geweest. Het EWN veronderstelt dat daaruit de toepassing 'uithollen' is ontstaan, en dat het substantief aan de basis van boot oorspronkelijk een als vaartuig uitgeholde boomstam zou hebben aangeduid.

### *SCHIP*

Schip wordt door de etymologische woordenboeken eveneens teruggevoerd op een Indo-Europese verbaalwortel, *\*skehib*, die ongeveer dezelfde betekenis zou hebben gehad als het werkwoord aan de basis van boot, nl. 'snijden, splijten'. "In Indo-Europees verband", aldus het EWN, "laat zich de oorspronkelijke betekenis [van schip] gemakkelijk uit die van de wortel afleiden, namelijk 'uitgehouden, uitgeholde boomstam', de oudst bekende vaartuigsoort".

Hoewel geen enkel etymologisch woordenboek een verband legt tussen de wortel van schip en die van scheppen, lijkt een verwantschap tussen die twee in hun Indo-Europese voorgeschiedenis niet uit te sluiten. Daarvoor pleit niet alleen de vormgelijkenis tussen schip en de stam van scheppen, er valt ook een semantisch argument voor aan te dragen. Een oude betekenis van schip, die in het Oudhoogduits is opgetekend, is 'vat', iets wat oorspronkelijk vervaardigd werd door uitholling van houten blokken. Uit datzelfde Oudhoogduits is een met scheppen ten nauwste verwant zelfstandig naamwoord *skaf* overgeleverd, dat eveneens een stuk vaatwerk aanduidt. Etymologisch identiek daarmee is het Oudnoorse *skapker* 'vaatwerk met bier waaruit bekens werden gevuld'. Van de twee zelfstandige naamwoorden, schip en het met scheppen corresponderende 'vaatwerk'-woord, dat in het Germaans *\*skapa* geluid moet hebben, kan de basisbetekenis dus omschreven



worden als 'het uitgeholde'. Van daar af raakte schip toegespitst op een uitgeholde boomstam als vaartuig, een ontwikkeling die de nazaten van \*skapa niet hebben gekend.

Dit alles blijft in hoge mate speculatief. Het is goed mogelijk dat de gesignaleerde gelijkenissen tussen schip en scheppen op toeval berusten en dat er tussen beide geen enkele etymologische verwantschapslijn loopt. Klaarblijkelijk beschikte het Indo-Europees over meerdere werkwoorden voor 'snijden, splijten, uithollen' e.d., waaruit substantieven afgeleid konden worden voor uitgeholde voorwerpen zoals vaatwerk en varende boomstammen.

Dat wordt niet alleen bewezen door de afkomst van het woord boot, maar ook door de betekenisontwikkeling van het Latijnse vas 'vat', dat in het Frans leidde tot de 'vaartuig'-benaming vaisseau.

De Grote Rede Nov 2011 n° 31

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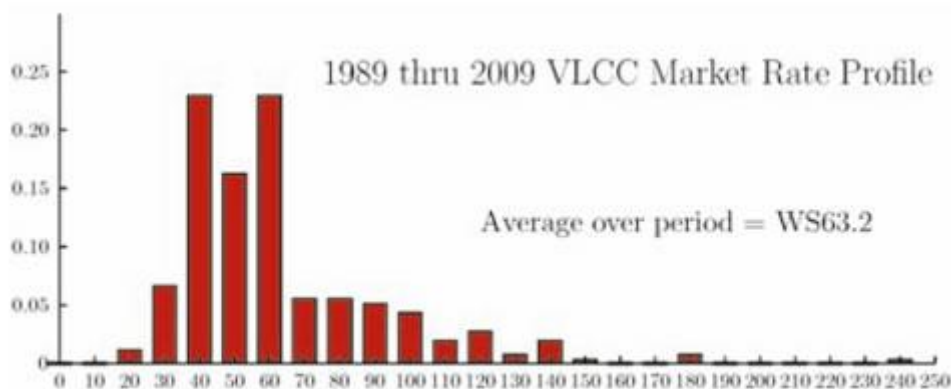
**Inséré le 09/05/12 – OPEN FORUM – Enlevé le 09/06/12**

## Why EEDI won't work

The IMO may be on the verge of enacting an amendment to MARPOL, which would require new large ships to meet an Energy Efficiency Design Index (EEDI)\*.

EEDI is a calm water, trial measurement of the CO2 output of the ship at a single power rating (75% mcr) ratioed to a measure of the ship's transport capability. The assumption is that a 25% reduction in EEDI will result in a 25% reduction in fleet CO2 emissions. This claim was central to the IMO's recent report to the Cancun Conference.

**And it is just flat wrong.**



**Figure 2: Fraction of time market spends in each Worldscale interval.**

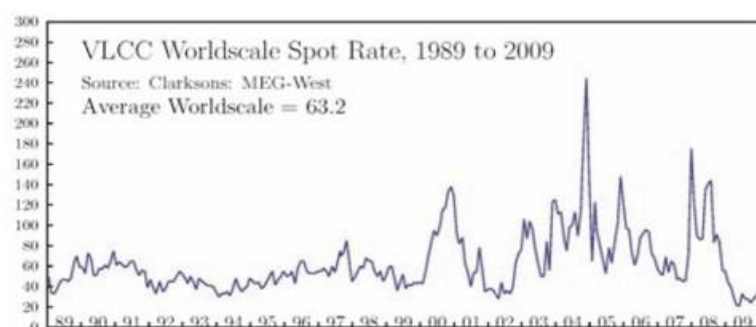
EEDI is based on a static view of the world. The basic fallacy underlying EEDI is that the ship's steaming speed is fixed. In competitive sectors such as tankers

this will happen only if the market spot rate is constant.

In fact, in the bulk trades, the spot rate ranges from rates so low that the owner is barely covering fuel bills to rates so high that the owner can pay off a ship in as little as 10 voyages. Figure 1 shows the VLCC spot rate for the last 20 years. The basic pattern is longish periods of very low rates, during which, at current and projected bunker fuel oil prices, the ships will be steaming as slow as they can, interspersed with spikes in which the ships will steam as fast they can, almost regardless of bunker price.

The ships will almost never be steaming at 75% mcr.

Figure 2 is a histogram of VLCC spot rates over the last 20



**Figure 1: VLCC Spot Rate for the last 21 Years.**

years. The average of these spot rates, Worldscale 63, is roughly equal to the rate the VLCC owner would have to average in order to just breakeven on the investment, including the capital cost, the so-called RFR. However, 90% of the time, rates are below RFR, usually well below. Less than 10% of the time, the rate is in full scale boom, several times RFR.

In order to properly analyse EEDI, or a carbon dumping fee, or mandatory max speed or any other regulation which affects steaming speed, we must do so over a market cycle adjusting the ship's speed to the current spot rate. CTX has undertaken such a study using VLCC's as an example. The study compared an EEDI-compliant and a non-EEDI compliant (no regulation) VLCC for two fuel oil prices - \$465 (about current).

1. \$620 (current plus \$50/t CO2 dumping fee)[1]

Added on are three EEDI levels: Phase I (-10% from baseline), Phase II (-25%), Phase III (-35%). Both ships incorporated feasible, prudent, efficiency measures which currently have negative abatement cost. Table 1 shows typical results.

WS	Ave spd Non-EEDI	Ave spd EEDI	Ratio CO2	% Diff.
30	10.25	10.25	1.0000	-0.0
40	10.74	10.74	1.0000	-0.0
50	11.19	11.19	1.0000	-0.0
60	11.97	11.97	1.0000	-0.0
70	13.20	13.20	1.0000	-0.0
80	14.24	14.00	0.9820	-1.8
90	15.00	14.75	0.9846	-1.5
100	15.49	15.25	0.9948	-0.5
110	15.99	15.49	0.9732	-2.7
120	16.25	15.94	0.9903	-1.0
130	16.49	15.94	0.9747	-2.5
140	16.72	16.17	0.9762	-2.4
150	16.83	16.17	0.9632	-3.7
160	16.83	16.17	0.9632	-3.7
170	16.83	16.17	0.9632	-3.7
180	16.83	16.17	0.9632	-3.7
190	16.83	16.17	0.9632	-3.7
200	16.97	16.17	0.9427	-5.7
Average	1.238	1.226		-1.0.

Table 1. Phase 1 Percent reduction in CO2, BASE (noEEDI) vs 6 cyt ship (EEDI). BFO=\$465.

In Table 1, the second and third columns were computed by finding the loaded/ballast speed that maximises the owner's \$/day earnings for the given spot rate, fuel cost, and speed/fuel curve. (The optimisation was done in half knot increments, so it can be a little jumpy.) The fourth column was generated by computing how much CO2 each ship would produce per tonne per day delivered on the standard route (Ras Tanura-Yokohama), and then ratioing these two numbers. In other words,

the fleet sizes have been adjusted to deliver the same amount of transport capacity. The bottom line shows the CO2 produced per tonne of cargo delivered per day for each ship averaged over the market cycle using Figure 2. In this case, the Phase I EEDI compliant fleet produces 1% less CO2 over the market cycle. Table 2 summarises the results.

The Phase 2 and Phase 3 EEDI fleet produce more CO2 than the non-regulated fleet. How can this be? The answer is two fold:

1. EEDI effectively limits installed power. But at current and expected BFO prices, a non-EEDI VLCC owner uses all his installed power only in a full boom. So for the great bulk of her life, a non-EEDI ship uses little or no more power than an EEDI compliant ship.
2. In limiting installed power, EEDI induces owners to use smaller bore, higher rev/min engines.

BFO COST	Phase 1	Phase 2	Phase 3
\$465	-1.0%	+2.0%	+1.7%
\$620	-0.8%	+1.6%	+1.7%

Table 3 shows CTX's estimate of how VLCC owners will respond to EEDI. These engines have higher specific fuel consumption and more importantly require a smaller, less efficient propeller. This means the EEDI compliant

Table 2. Overall Summary of results Pct reduction in CO2 Emissions averaged over market cycle. Negative implies EEDI compliant fleet better.

VLCC consumes more fuel when the market is not in boom, which is 90% of the time.

Even if we unrealistically assume away problem (2), our numbers indicate that the Phase 2 (25% reduction in EEDI) EEDI compliant VLCC fleet will produce about 2% less at-sea CO2 than the non-EEDI fleet. And this is only at-sea emissions.

The increase in build/repair/scrap emissions is based on Gratsos et al converted to equivalent at sea emissions[2]. Gratsos considered only emissions at building, repair and breaking yards. Mining, flying crews around, additional cargo loss due to tank breathing, etc were not included.

Finally, these are all calm water numbers. The low-powered EEDI compliant ship will have considerably poorer performance in heavy weather than the non-EEDI ship.

As Table 3 shows, in order to meet Phase 3 EEDI, VLCC's will have to go down to about 13,000 KW mcr. This is less than half the present practice. This ship will not only have great difficulty maintaining any speed in bad weather, but also her engine will be pushed much harder over the market cycle than the non-EEDI ship's. And that means a big jump in machinery failures. As far as I know, similar studies have not been done for smaller tankers; but there is every reason to believe that such studies

	No EEDI	Phase 1	Phase 2	Phase 3
gCO2/dwt-kt@75%MCR	2.54	2.09	1.74	1.51
MCR(kW)	27,500	23,600	16,500*	13,200**
Number cylinders	7	6	6	6
BORE(mm)	840	840	650	600
RPM(MCR)	75	75	95	105
SFC@MCR(book)	168	168	171	171
PROPDIAM.(m)	9.9	9.9	7.1	6.0
Propulsive efficiency	0.73	0.73	0.67	0.64

- \*De-rated from 17,200kW. \*\*De-rated from 14,400 kW.
- Disallowed less than 6 cylinders on vibration grounds. Reduction gear not considered.
- Lower powered ships spend much more of the market cycle at or close to MCR and above the min SFC point.
- Heavy weather, manoeuvring characteristics of ships on right need to be carefully studied.

Table 3. Main propulsion parameters of EEDI compliant VLCC's.

Table 4 shows the VLCC fleet size requirements of EEDI.

would generate very similar results.

EEDI is a loser. So what should we do? The answer will be obvious to any first year economics student: charge the polluter for his pollution.

Table 5 shows how VLCC owners would respond to a \$50 per tonne CO2 dumping fee which would increase the owner's fuel oil cost about \$150/t.

Over the market cycle, this carbon dumping fee would generate a 6.2% reduction in CO2, far more than any level of EEDI. But it is how the fee works that is interesting.

Comparing Tables 1 and 5, below about WS 150 — in other words, almost all the time—the non-EEDI ship with the fee is steaming more slowly

	Phase 1	Phase 2	Phase 3
Fleet Size	+4%	+18%	+29%
B/R/SCO2	+0.1%	+0.6%	+1.0%

Table 4. Increase in fleet size for same transport capacity.

WS	Ave spd 465	Ave spd 620	Ratio CO2	% Diff.
30	10.25	9.98	0.9854	-1.5
40	10.74	9.98	0.9472	-5.3
50	11.19	10.50	0.9307	-6.9
60	11.97	10.74	0.9197	-8.0
70	13.20	11.74	0.8965	-10.4
80	14.24	12.24	0.8865	-11.3
90	15.00	13.24	0.9094	-9.1
100	15.49	14.00	0.9224	-7.8
110	15.99	14.50	0.9141	-8.6
120	16.25	15.25	0.9301	-7.0
130	16.49	15.49	0.9262	-7.4
140	16.72	15.75	0.9290	-7.1
150	16.83	15.99	0.9297	-7.0
160	16.83	16.49	0.9678	-3.2
170	16.83	16.49	0.9678	-3.2
180	16.83	16.72	0.9867	0.0
190	16.83	16.72	0.9867	0.0
200	16.97	16.83	0.9787	-2.1
...	...	...	....	-2.1
260	16.97	16.83	0.9787	-2.1
270	16.97	16.97	1.0000	-0.0
Average	1.238	1.161		-6.2

Table 5. Percent reduction CO2, \$50/ton CO2 for non-EEDI ship at \$465 versus \$620 BFO cost.

than the Phase I EEDI compliant ship without the fee. It is only in an all-out, full boom that the non-EEDI ship with the fee steams faster than the Phase I EEDI ship without the fee. But this is exactly what we want, for it avoids wastefully expending resources on additional ships, just to handle a boom[3].

A carbon dumping fee is effective, efficient, and safe. EEDI is none of the above. TO

**Footnotes:**

1. A ship emits a little over three tonnes of CO2 per tonne of fuel burned. A \$50/t CO2 fee imposed as a bunkers tax would increase the owner's fuel cost roughly \$150/t BFO.
2. Gratsos, G., Psaraftis, H. and Zachariadis, P., Life Cycle CO2 Emissions of Bulk Carriers: A Comparative Study, Int. Journal of Maritime Engineering, Jul-Sep 2010, pp A 119-A 134.

In economic jargon, the marginal societal value of a ton-knot of transport capacity is far higher in a boom than in a slump. A fee responds to this order of magnitude change in value efficiently. EEDI and other mandated restrictions do not.

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**Inséré le 11/05/12 – OPEN FORUM – Enlevé le 11/06/12**

## Getting lifeboats off the hook

Lifeboat launching systems may finally be getting upgraded but is there a problem with lifeboat maintenance? asks Mark Langdon.



Schat-Harding engineer services a lifeboat hook

Fatalities occur every year as a result of old and poorly-designed release mechanisms. The IMO has been working on a solution for years and has eventually come up with what it believes to be the answer in the form of MSC circular 1392 which basically states: "The Maritime Safety Committee has approved the guidelines for evaluation and

replacement of lifeboat release and retrieval systems."

The main point is that the new SOLAS regulation III/1.5, which is expected to enter into force on 1 January 2013, requires that for all ships, on-load release mechanisms not complying with

paragraphs 4.4.7.6.4 to 4.4.7.6.6 of the LSA Code, as amended by resolution MSC.320(89) (hereinafter called "the LSA Code"), be replaced or modified not later than the next scheduled dry-docking after 1 July 2014, but not later than 1 July 2019.

"It has taken a very long time to agree the contents of the circular,' says Paul Watkins, sales and project manager at Survival Craft. "As a member of (LAMA, I am one of the members of the sub-committee working group and correspondence groups at the IMO, so I have been very heavily involved in the preparation of those requirements. I would agree and everybody involved would have to agree that it has taken a very long time, but that is just the way the IMO works - it certainly wasn't through lack of effort."

Now that a way forward has been decided upon there is still the issue about the amount of time being given to comply, but as David Torres, vice president sales at Umoe Schat-Harding Services explains: "To give you a rough idea of the numbers, because exact figures on this topic aren't available, the merchant fleet consists of around 51,000 vessels, which we as an industry are looking at. These are just vessels with lifeboats and hooks onboard. Of those 51,000 maybe 10% or 20% have freefall lifeboats onboard and another estimated 10% already comply with these guidelines. So if we take these out we are still talking about a huge number of lifeboats. The majority of the vessels are equipped with at least two totally, or partially, enclosed lifeboats. So, 30,000-plus vessels multiplied by two lifeboats is a lot of hooks to replace," says Torres.

"There are, with certainty, types of release gear systems in lifeboats that ought to be replaced at the soonest possible moment - there is no doubt about that - and the industry will definitely support that viewpoint," says Watkins. "The output of the IMO has now produced the 'vehicle' for that to occur. What will be unfortunate is that some owners may well drag that decision out until 30 June 2019 and that would be a shame, but we live in the real world and that will happen. However, in the five year preceding period there will be many thousands of lifeboats fitted with alternative, approved types of release gear."

## **Modifying systems**

While there appears to be an option to modify existing systems to comply with the regulations, this is not likely to be realistic. Watkins told The Motorship: "The majority of existing release gear systems are manufactured from carbon steel that is galvanised. The new requirements require that the equipment is manufactured from a non-corrosive material." Torres agrees saying: "The IMO is really pushing for non-corrosive materials, and in theory galvanising is noncorrosive, however it is not applicable in a high corrosive environment, such as at sea."

So you may be able to modify the hook but it is unlikely to comply with the non-corrosive materials requirement. "This means that there are unlikely to be any permanent modifications accepted, requiring most hooks to be swapped out," concludes Torres.

"My feeling and our corporate feeling is that there will be a large number of lifeboats that require their release gear to be replaced," agrees Watkins.

## **Time for replacement**

While the equipment replacement is only just starting because the output from the IMO only occurred in May, when it comes to making the decision to upgrade, Torres warns: "We are already doing a lot of these installations because there are a lot of safety conscious ship owners, or if they are not safety conscious, they realise that there will be a day when the availability of people able to do, or capable of doing, a proper re-hooking of the system might become a problem, which will put their continuation of activities in danger."

Watkins concurs, saying: "Clients are beginning to contact us to talk about this requirement but it will take a bit of time for it to be digested, which is why the IMO allowed the amount of time that it has. However, our advice is to attend to this sooner rather than later, advice which a large number of our clients have heeded."

Torres also warns: "If an accident does occur then you are exposed to a huge loss of time and money, even if there is no loss of life."

## **New systems**

Torres believes: "As most of the lifeboats out there are from Schat-Harding, we are the company with the longest history in this business, so if there is anybody who knows what is going on with equipment, it is us. Therefore, if we supply the customer with a solution, such as the SeaCure, we and the customer can be confident that it is a solution that fits his needs and it is safe and cost efficient." Schat-Harding's SeaCure system has been designed to not just to fit its own lifeboat designs but fits all lifeboats types.

It is the same for Survival Craft, as Watkins explains: "We specifically developed our approved release gear system to allow for replacement into any lifeboat, and in the many hundreds of installations so far carried out, we haven't encountered a lifeboat yet that can't accommodate Safelaunch."

He goes on to say; "We looked at producing a piece of equipment that inhibited or completely negated the chance of accidental release through the use of a locking pins system."

He told The Motorship: "We strongly advise, although it is at the discretion of the master of course, that the locking pin is used during drills and maintenance only and then removed from the release gear to allow for immediate evacuation of the vessel if so required.

"We also re-engineered the cam and the hook interface so that there are no critical tolerances or critical gap requirements to be concerned about," he explains. "You are able to easily observe the safe status of the release gear without having to enter the lifeboat at all, so you can rapidly judge whether that lifeboat is safe to board before even opening the hatch."

The company has released an upgrade to Safelaunch, which it exhibited at Offshore Europe in Aberdeen. "It has a secondary locking system on it which adds another layer of security to Safelaunch," explains Watkins. "The locking pin can be compared to the harbour pin on a davit system, which when used in port stops the davits lulling out. It is a very simple solution but one that is well proven to work and is of a type supported by some of the industry groups at the IMO. They are very keen on the simple technology of a locking pin."

## Maintenance in question

IMO, classification societies, flag states and shipping associations have been placing great emphasis on lifeboat safety in an effort to reduce the number of reported deaths and injuries which are occurring within the industry.

Lifeboat and davit manufacturers have also been doing their bit by ramping up training and service company certifications to meet the growing maintenance and servicing needs of the industry. "But, sadly, this has come about at the expense of quality of service, and professionalism," claims Technofibre. "In the course of these commendable efforts within the industry as a whole, a new, unforeseen element of danger has arisen in the form of a rise in the number of substandard service providers."



Survival Craft's Safelaunch hook

The company says: "A vast majority of these companies are relatively new 'service' companies which took advantage of the legislation under MSC 1206 rev1 guidelines to literally 'collect' OEM service authorisations and approvals without having the requisite technical expertise, experience and /or any form of internal training and quality control systems in place."

However, Paul Watkins of Survival Craft, points out: "We have been inspecting, repairing, maintaining and testing lifeboats since 1991, so have plenty of direct industry experience to draw on. Quite rightly, there are some strictly enforced requirements; you must be able prove a minimum industry relevant experience of two years, to have a fully implemented ISO 9000 Part 1 quality management system, to be certified and trained and you

need to buy critical path item spare parts from the OEMs only. All these requirements are laid out in the two maritime safety circulars MSC.1/Circ.1206 Rev 1 and MSC.1/Circ. 1277. suppose that it could be argued that perhaps two years is insufficient and perhaps it would be better with five years but that is what, after much gnashing of teeth at the IMO, was ultimately decided upon and there are a lot of very smart people at the IMO."

This is something that David Torres of Umoe Schat-Harding Services agrees with, saying: "The majority of these 'experts' started to service customers' equipment from or after 2008, so you cannot say that in a period of three years that you are an expert, especially if you take into consideration where some of these so-called experts are located. For example, servicing lifeboats for a year in Rotterdam, one of the biggest and busiest ports in the world, is totally different from doing the same in Romania - it is a totally different ball game. Experience is built up by actually doing the job and the customer is being exposed to and funding these guys' experience build-up."

"Perhaps, sometime in the future, the requirements may need to be enhanced slightly but that is something for the IMO to decide," says Watkins.

## **Disaster waiting**

Just recently, in Malaysia, an OEM accredited and authorised lifeboat service company supposedly carried out a five yearly overhaul and inspection of two European manufactured lifeboats and davit systems, as prescribed by the IMO MSC 1206 Rev 1 guidelines.

Within about one month after this 'inspection' and 'overhaul' was undertaken, Technofibre Malaysia was urgently requested to attend the vessel upon its return to its home port. This was in order to carry out a damage repair survey on one of the lifeboats which had been recently 'surveyed' by the 'authorised' Malaysian company.

Technofibre found extensive damage to the lifeboat. Due to the massive structural damage to the keel the lifeboat was deemed to be 'beyond economical repair' and was therefore sent to be scrapped. "This is a prime example of the slipshod and unprofessional works that still seem to prevail within the lifeboat servicing industry despite all the current measures and legislation put into place by the IMO," states the company. "Bona fide service companies, owners, class and manufacturers need to do far more in weeding out these so-called service providers. And more thought needs to be given to raising the entry requirements and standards for companies wishing to engage in these types of activities, perhaps along the lines of the current MCA doctrines for ILSTOs," it concludes.

## **Evacuation**

A new high capacity evacuation system for ship-shaped offshore installations has been developed by Viking Life-Saving Equipment. The new Venoc system is an active chute and liferaft which dispenses with bousing lines and uses a stabiliser weight, suspended from the bottom of the chute instead. The result is that the chute itself is neutral, even when the vessel is in extreme trim and list conditions. The solution has already undergone full heavy sea weather trials in the North Sea.

On launch, the system uses an electrical winch to lower the chute, a buoyancy device and a deflated self-righting liferaft in a speed controlled manner. On contact with the water, the liferaft inflates automatically, negating the need for any member of personnel to enter the equipment before it is fully functional.

Viking claims 140 people could be evacuated from a ship within 10 minutes, and 420 persons could be evacuated over a 30 minute period, in line with SOLAS requirements set by IMO. Sea trials that will lead to certification by class are progressing towards an expected commercial launch soon.

# **Lifeboat accident provides sobering warning**

**Compiled by: Martin Leduc**

In Portland, Maine, in the United States, one Canadian, Nova Scotian, sailor died and two others were injured during a lifeboat drill. Much like confined space deaths, I am still awestruck how often these types of accidents are happening.

The U.S. coast guard report says a hook securing the lifeboat the men were in didn't lock properly and a warning device wasn't visible to the crew on board. The rig's lifeboat snapped its moorings as it was being hoisted aboard the rig.

**"A lifeboat** containing three workers was being lifted back to its stowed position aboard the oil rig, the Pride Rio de Janeiro, following a lifeboat drill when the boat's sternhook failed, dropping the lifeboat and the workers approximately 60 feet into the harbor.

"The workers should not have been in the lifeboat when it was being raised back to its stowed position," said C. William Freeman III, OSHA's area director for Maine. "OSHA standards prohibit it. Had proper safeguards been followed, they would not have been in the lifeboat after the drill and therefore not exposed to serious injury and death."

A visitor to Martin's Marine Engineering Page - [www.dieselduck.net](http://www.dieselduck.net), contributed these pictures showing the damage to the lifeboat.







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**Inséré le 13/05/12 – OPEN FORUM – Enlevé le 13/06/12**

## **Know your pirate better than he knows you**

The decision by the European Union's naval force combating piracy in the Gulf of Aden and beyond to seek a "pirate cultural advisor" has unsurprisingly attracted media attention. "Pirate culture" was the phrase that hooked most commentators for two reasons: the perceived oxymoron created by juxtaposing the two words, "culture", suggesting to many art galleries, the opera and similarly refined loci of aesthetic appreciation, and "pirate" widely regarded as the former's antithesis; and because of the opportunity it provides to reference historical and modern images of piracy – from Victorian melodrama to Hollywood hokum. Despite the fact that the activities of the modern "pirate", who hijacks ships and hold their crews hostage for ransom, have received wide if intermittent attention in the media, the image conjured by the word in most minds stubbornly remains the romanticised one rather than the brutal reality. So stories covering the job advertisement for a pirate cultural advisor have been shot through with derision and liberal use of images such as those of the recent Hollywood series of piratical films. They also revived the criticism of what is seen as the disproportionate response by navies from predominantly European countries, with the action most criticised the release of suspects, albeit usually with weapons and other hijack paraphernalia confiscated.

What EU NAVFOR is actually looking for is someone with a military background and knowledge of piracy as currently practised. As an official told the media, it was simply following the well-known

policy of knowing one's enemy in order to defeat them more easily. To "get inside the mind" of a pirate might be another way of putting it, although the culture advisor would no doubt point out the mind in question is likely to be under the influence of khat, the amphetamine-like drug popular in the region. It is a sign perhaps that those tasked with the job of defending the high seas have come to see it as, rather than a policing action, a military engagement, albeit an asymmetrical one and one not taught - yet at least - at naval colleges. (At the same time piracy is also being treated as a "transnational crime", with incidents, particularly successful and failed hijackings, receiving the attention of Interpol.) It is not clear whether the other naval forces - NATO and the US Navy's Combined Task Force, for example - have similar experts on pirate culture working for them, but it would not be surprising if they did. No doubt, too, shipping companies and industry organisations also avail themselves, either directly or indirectly (perhaps via P&I clubs or law firms), of such expertise, although one imagines the supply of such genuine experts is limited.

Nor would it be surprising to learn the pirates themselves - described earlier this year by one expert in ransom negotiations as "cunning" - have engaged the services of a European cultural advisor, i.e. somebody familiar with the way in which EU governments, singly or together, and their military forces work. Showing awareness of their enemy's culture, they were also said to have viewed capture by European navies as an opportunity to claim asylum-seeker status and enjoy the benefits of living in liberal democracies, although they may have been disabused of that notion by increasingly robust responses from some countries. An estimated 1,000 men accused of piracy are awaiting trial around the world, but the number of attacks in the region, albeit with a reduced success rate, does not appear to have diminished. The high-seas hijackers have already shown their ability to change their tactics in response to those used by both merchant ships they prey on and their defenders. Their ability to board and capture large merchant ships at sea from flimsy craft has also no doubt won grudging praise from both victims and seasoned naval personnel, although that success may have prompted others around the world to consider following their example. They have also become adept at ransom negotiations, during which they mercilessly deploy both physical and psychological torture techniques to put pressure on both hostages and those seeking to secure their release.

The reports of increasing violence against hostages may be a reaction to what the pirates perceive to be a losing battle, although an alternative theory is that the hijacking hostage-takers have begun hiring armed guards who, rather than receive a share of the ransom, are paid a daily rate and so have less interest in the welfare of their captives. If naval commanders are going to get to know pirates better and the latter in turn may already be wise to the former's ways, the worlds of merchant shipping and naval shipping, between which there has long been an uneasy relationship, have perhaps too become closer than at any time since the Second World War, with both sides having to learn how the other works.

At governmental level those states providing the naval forces have been given a refresher in the realities of open-register shipping under which the majority of ships, while owned or controlled from the former, are now flagged in other countries that have no or little defence industry. Their crews too are for the most part foreign nationals whose own cultures are worthy of equal scrutiny, given that some hostages might be culturally predisposed to keep secret some details of their treatment at the hands of their captors.

At operational level, naval commanders have begun to appreciate the problems faced by shipowners, their management and crews, realising that, while the majority are willing to co-operate - in implementing best practices, reporting in and maintaining contact - as far as possible, a hard-core minority appears to be prepared to sail through high-risk areas with minimal anti-piracy measures. Shipowners, for their part, have been re-acquainted with the constraints under which navies perform work, although they must still despair at the lack of will among their political masters. Knowing your enemy is one thing, but knowing your enemy also knows you means the winner will be the one who can keep one move ahead of the other. **Source: BIMCO**

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**Inséré le 15/05/12 BOEKEN LIVRES – Enlevé le 15/06/12**

**Door : Frank NEYTS**

## **“Nederland-Engeland. Reflecties over zee”**

Bij Uitgeversmaatschappij Walburg Pers verscheen recent **“Nederland-Engeland. Reflecties over zee”**. Het boek werd samengesteld onder redactie van Irene Jacobs en Joost Schokkenbroek. Wapengekletter, kanonnengebulder en economische concurrentie. De maritieme band tussen Nederland en Engeland lijkt in de literatuur vaak alleen te bestaan uit oorlogvoering of competitie tussen de VOC en de East-India Company. Deze uitgave neemt voor de verandering niet de strijd onder de loep, maar uiteenlopende vormen van samenwerking tussen beider landen van de zeventiende tot en met twintigste eeuw. Want die is het bekijken waard! De twee maritieme naties beïnvloeden elkaar in tijden van vrede én oorlog op cultureel, economisch en wetenschappelijk gebied. Van de Hollandse zeeschilder Willem van de Velde tot de Schotse ingenieur Ducan Christie – schilders, schrijvers, cartografen, scheepsbouwers, vissers, technici en (Olympische) watersporters weten elkaar te vinden en wisselen kennis, expertise en vaardigheden uit. Beide landen spiegelen zich aan elkaar. Een aantal facetten van deze reflectie wordt in dit boek getoond.

**“Nederland-Engeland”** is een gezamenlijke productie van het Maritiem Museum Rotterdam en Het Scheepvaartmuseum. **“Nederland-Engeland. Reflecties over zee”** (ISBN 978-90-5730-773-7) telt 128 pagina's, en werd als softback op groot formaat uitgegeven. Het boek kost 24.95 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: [info@agorabooks.com](mailto:info@agorabooks.com)

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**Inséré le 17/05/12 News Nouvelles – Enlevé le 17/06/12**

## **Seeking truth behind a tragedy**

**By Jo Chandler - Sydney Morning Herald**

STORIES of shipwreck, real and imagined, have a special place in the archive of human misery. The notion of being lost at sea, frail souls at the mercy of the elements, taps into our most deep-set fears. Witness the barrage of remembrances of the Titanic, a century on, and the media frenzy around the grounding of European cruise ship the Costa Concordia on the Italian coast in January this year. Three weeks after the **COSTA CONCORDIA** came to grief, with the loss of 32 lives, it was still making international headlines, overshadowing news that a heavily loaded island ferry vanished in wild seas off the Papua New Guinea coast somewhere around dawn on February 2. For a while it seemed the story of the **MV RABAUl QUEEN** was destined, like the ferry, to sink almost without trace, obscured by the bluster of the continuing maelstrom of Papua New Guinea's political crisis and by early reports that now appear to have grossly underestimated the loss of life.



Almost three months on, the truth of the tragedy - together with disturbing questions about the conditions on board the ship, its safety systems and those of PNG's maritime protocols more broadly - is surfacing in the testimony of witnesses summonsed to hearing rooms in Port Moresby and Lae.

Over the past two weeks, more than a dozen survivors have quietly provided raw firsthand insights into what

is shaping up as one of the nation's most devastating recent tragedies.

George Turme, a 20-year-old university student, was the first to testify to the inquiry before Commissioner Warwick Andrew, the Australian judge heading the investigation at the request of the PNG government. Turme swears he was in the company of more than 500 other passengers on that wild, doomed overnight voyage from the island of New Britain to the mainland port of Lae - crammed shoulder to shoulder, packed onto the heaving decks so tight that sleeping, even sitting, was impossible for most. Turme spent most of the voyage squashed into a toilet area with other men, who assembled around the decks trying to give more protected space in the interior to women and children who spilled across the floors (there were only 50 seats on the whole vessel). It was an act of gallantry that would backfire horribly when the ship capsized.

According to the ship survey certificate presented to the inquiry, the **RABAUL QUEEN** could carry a maximum number of unberthed passengers of 295, and up to 15 crew - a total of 310. If Turme's estimate that there were more than 500 people on board - and it is one shared by several witnesses in sworn testimony to the inquiry into the disaster, but which outstrips passenger lists drawn from official manifests by about 50 - then well over 250 souls were lost when the Rabaul Queen sank in up to 3000 metres of water. The true toll may never be known, not least because the lack of records for the infants carried onto the ship by their mothers, and who could not save themselves or be saved.

Turme tells of the desperate, dark hour before the ship sank, as it listed heavily to the left - several witnesses were worried that the Queen seemed to be out of balance right from the time she departed Kimbe wharf. Around dawn someone - maybe a crew member, though it was impossible to tell as they did not wear uniforms - called on him and about 20 other men to go to the starboard side and try to balance the ship as it negotiated its way through the notoriously treacherous Viliatz Strait, which separates New Britain from the mainland. They tried to lean out over the right side of the ship as the big waves came. "We look out for the strong wind. So when the waves hit the ship we all bend to the right side and try to balance it," Turme told Commissioner Andrew. Once, twice, when really big waves came in, they succeeded in keeping it upright but then "another strong wave come, came and hit the ship". It struck the back of the vessel on the starboard side and the Queen began to roll over to the left. Turme and the men with him all leapt into the water as she capsized.

A strong swimmer, Turme kept himself afloat in the dark, oil-slicked seas, swimming desperately away for a few minutes before turning back to see a couple of black life rafts, and climbing aboard one.

"When the vessel went down people were crying and shouting for help, so we tried to rescue some of them, mothers and children. Some of the children were already floating on top of the sea ... they were already dead."



In less than 10 minutes the **RABAUL QUEEN** sank under the waves. Turme and another 17 survivors - all adult men, no women or children found their way to the raft - were crowded into his lifeboat, riding the waves and the wind through the dawn and into the next afternoon.

The lifeboat held no water, food or medical provisions - just a whistle.

Turme and a couple of others vomited. Lucille Pongi, a mother and housewife from Lae, had also made her way into one of the life rafts. She was a Rabaul Queen

veteran, having made the voyage at least 10 times before. This was always the busiest time of the year for the ferry - with a new school term about to begin, students, families and teachers were returning to the mainland after spending Christmas visiting wantoks (extended family) in their island homes. Pongi had worried about overcrowding on previous trips, and recalled for the commission that when she had complained to a crew member a few months earlier - asking how many passengers were aboard - she had been told that the ship took 500 passengers. The man had said, "We normally take more than that", she said. On this trip she was travelling with her sister and her niece. They had already endured a sickening night of wild weather travelling from Rabaul, at the eastern tip of New Britain island, down to Kimbe at the western end.

When the exhausted passengers were ordered off in Kimbe for a couple of hours to allow the ship to be cleaned, refuelled and loaded with more passengers and cargo for the last leg of the journey to Lae, some thought better of continuing the journey. Many persevered though, fearful that they would forfeit their 350 kina (\$A160) fares, or have to pay a fine to delay the journey. Pongi was tempted to join them - indeed her son came to speak to her on the wharf at Kimbe because he was so worried. "He said 'Mummy, do you wish to travel?'" He had heard there was a cyclone warning in Fiji and wild seas forecast through the PNG islands. "Look at the waves - you still wish to continue?"

As her sister wanted to push on, Pongi felt compelled to continue. But she was not happy. "I tell you it was so crowded, more than what we normally ... had on board. There was no space. You just cramped like that when we were sitting down. There's no place to stretch your leg, to sleep or rest your bag. We had to, you know, just sit up like this all night ... there were so many people on board." Another passenger, a man, had told her that when he boarded a woman standing with the manifest and counting heads had told him: "You are the last one, and the total is 500-something." Unable to sleep, she became worried when she heard a strange whistling noise sometime in the dark of the early morning. She roused her sister. Something was not right. "I think the ship has a hole in it." Her sister said: "Well, you've got funny ideas." But, Pongi told the inquiry, "the ship was unbalanced, leaning toward the left". Soon after dawn she was screaming at her sister: "Dianne, don't sleep, get up, we're in trouble. Get the crew to give us a life jacket and get us prepared." But the life jackets, when she found them, were padlocked in a wire cage - a claim also made by several other witnesses.



Pongi said she she was "calling out for the people to give us the life jacket because I knew it was about to sink and I was standing there when the waves hit the ship and it just capsized. "I was under the water for some time and I don't know ... I had my eyes open and it was like a

movie I was watching, under the water inside the sinking ship. I was swimming, trying to, you know, find my way out. "I could see men, women and children, you know, struggling and then some children were ... drowned already, they were just floating." People struggled to open sliding glass doors. Somehow she escaped. "I had a prayer, I said thank you Lord. If you wanted me to die, I could have died already in there." She grabbed a "little rainbow bag" that was floating in the water and clung to it for maybe an hour before finding her way into a lifeboat. Her sister and niece also survived. Determining the true passenger numbers is one of the central preoccupations of the inquiry. Other main areas of investigation emerging in questioning so far relate to the condition of the vessel; its cargo load; access to life vests and life rafts; the competency of the crew; the weather conditions and processes for the issue of weather warnings (it emerged that the National Weather Service had no internet because the responsible department had not paid the bill); and the competency and oversight of the National Maritime Safety Authority (NMSA). One passenger witness, architect Roderick Voit, claimed he saw a brown beer bottle thrown from the wheelhouse into the sea soon after the ship left Kimbe wharf. Insurance and marine survey specialists have given evidence of concerns about the condition of various vessels in the Rabaul Shipping fleet, and one inspection document from 2006 noted that some life rafts were missing - apparently taken for servicing.

Another witness, Roby Naigu, officer in charge of the NMSA, raised concerns about the man at the helm of the **Rabaul Queen** when she foundered, Captain Anthony Tsiau. Naigu said he believed Tsiau had previously run two ships aground - though his knowledge of this history was challenged by the defence. "This is the third one, Rabaul Queen, under his command. I believe we would have saved this **Rabaul Queen** incident if ... as an authority we were alerted to this past issue of the same captain who has sunk two other ships already." He had also had a confrontation with Tsiau two years earlier after accusing him of inappropriately loading dangerous goods - canisters of oxygen and acetylene - aboard the **Rabaul Queen**, a matter that had flared into a confrontation and later a legal dispute with the ship's operator, **Rabaul Shipping Ltd.**

On the question of passenger overloading, the integrity of manifests has been closely scrutinised. The inquiry has already heard from one passenger who was not listed on any manifest. The managing director and major shareholder of Rabaul Shipping Ltd, and operator of the **Rabaul Queen**, Australian-born veteran seaman Captain Peter Sharp has conceded under questioning by counsel assisting, Queensland lawyer Mal Varitimos, that there were up to 376 passengers and crew on board, plus infants.

Sharp has been the focus of intense local anger and personal threats over the tragedy. Three of his other ships were torched in Bougainville shortly after the **Rabaul Queen** sunk. Meanwhile investigations by PNG authorities to identify all the people on board, including a public appeal for family and friends to come forward, led to estimates of 453 people on board including children, 230 of whom had been rescued; four bodies located; and 219 listed as missing.

Sharp - who has pledged to fully co-operate with the inquiry - told the inquiry that the Japanese-built, 42-metre vessel had specifications that it could carry 358 adults. This figure appears in some of the insurance and certification documentation tendered to the inquiry. He insisted under close questioning that the ship was not overloaded, quoting a provision in the Merchant Shipping Act that a passenger vessel is not overloaded if it does not exceed its load marks as determined on the hull.

"The vessel was operating safely," Sharp told the commission. He said in loading the vessel his crew would "basically look at the load line. If they're not over the load line they consider they are not overloaded." More hearings are scheduled to continue at ports along the **Rabaul Queen** route, and a report is due to be presented to the PNG government by June 30. **Source : smh.com.au**

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**Inséré le 19/05/12 Historiek Historique – Enlevé le 19/06/12**

## **La flibuste et l'île de la Tortue**

Les flibustiers combattaient à leur façon qui ne ressemblait à aucune autre.

Et d'abord, ils ne manquaient jamais de faire la prière avant l'action. Comme sur les navires espagnols on invoquait pareillement l'aide du Très Haut, les chances s'en trouvaient égalisées; on peut même admettre que le Bon Dieu éprouvait à l'occasion quelque embarras. La lutte s'engageant, c'est sur la mousqueterie que nos gens comptaient pour prendre avantage, nullement sur l'artillerie. Ils étaient des tireurs d'une adresse exceptionnelle. Aussi bien avaient-ils naguère été boucaniers; or qui n'abattait pas le taureau sauvage au premier coup de feu, s'exposait à le voir charger; et le péril alors était extrême. A la mer, ils se servaient de leurs redoutables et massives armes d'antan; leur canon, seul, n'avait pas moins de cinq pieds de long, soit un mètre cinquante environ; grâce à quoi on obtenait une grande précision. Ces fusils étaient fabriqués en France à l'usage des boucaniers, soit à Dieppe par un armurier nommé Brachie, soit à Nantes chez un certain Gelin. La crosse n'avait pas la forme habituelle; elle était étonnamment épaisse et lourde. On tirait des balles de seize à la livre, ce qui équivaut à trente de nos grammes; le plus souvent, le chargement comportait non pas une balle unique mais bien deux ou trois. Chaque tireur éprouvé utilisait concurremment plusieurs fusils que des valets rechargeaient à mesure. Le Père Labat parle d'un flibustier qui tirait de la sorte ses vingt coups à la minute sans jamais manquer son homme.

Quand les flibustiers jugeaient l'adversaire suffisamment décimé et démoralisé, ils se lançaient à l'abordage; entendez par là, non comme vous pourriez croire, qu'ils abordassent l'ennemi, mais plutôt qu'ils se faisaient aborder par lui. La tactique consistait en effet à jeter son propre navire en travers de l'étrave de l'autre. Ainsi conservait-on l'artillerie tout entière battante; tirant de plein fouet et en enfilade — dans les meilleures conditions d'efficacité par conséquent — tandis que les pièces de l'adversaire étaient neutralisées, incapables de lui être du moindre secours. Son beaupré servait de pont pour monter à l'assaut.

Sous quel pavillon combattait la Flibuste ? Question à laquelle il est malaisé de répondre. A l'origine, n'en doutons pas, la fantaisie et l'humeur du moment en décidaient plus que la tradition ou quelque règlement dont on pût s'autoriser. Même en ce qui regarde les marines d'État, cette question des pavillons reste fort obscure. Les archives du ministère de la marine conservent un projet de règlement, daté de 1669 et dans lequel on ne lit pas sans étonnement ce qui suit : « Les vaisseaux du Roi ne sont fixés d'aucune enseigne de poupe pour le combat. Pendant les guerres d'Espagne, on a porté une enseigne de poupe rouge pendant les combats, pour se différencier des Espagnols qui la portent blanche, et, dans la dernière guerre, on la portait blanche pour se différencier des Anglais qui la portent rouge... ». Dès lors que dans la marine royale on était aussi peu regardant sur ce chapitre, il n'est pas surprenant qu'on le fût encore moins dans la Flibuste.

Vers la fin du XVIIe siècle, les corsaires furent habilités à arborer le pavillon blanc. Peut-être bien les flibustiers pourvus d'une commission en bonne et due forme hissaient-ils ce pavillon auquel ils avaient authentiquement droit. Quant aux autres, s'ils n'avaient pas ce droit, ils se l'arrogeaient; et qui donc, dans ces mers lointaines, eut pu les en empêcher ?

Dans les périodes où la France était en paix avec l'Espagne, certains gouverneurs, en l'île de la Tortue, délivrèrent des lettres de marque émanant du roi de Portugal alors en guerre avec son cousin d'Espagne. Ainsi le droit des gens, tel du moins qu'on le concevait à cette époque, était-il en tout état de cause sauvegardé. Pour s'en prendre aux vaisseaux espagnols, sans doute arborait-on le pavillon de Portugal.

Quant au trop fameux pavillon noir portant, outre une tête de mort, deux tibias en croix, voire un squelette brandissant d'une main le sablier, de l'autre un sabre, gageons qu'il ne fit son apparition qu'au déclin de la Flibuste. Il aurait été arboré par ceux-là, qui, ne voulant pas se plier à l'interdiction de pratiquer plus longtemps la course, se firent pirates dans la pleine acception du terme. Un fait au moins ne saurait être mis en doute : soit pour approcher l'ennemi sans éveiller

ses soupçons, soit pour lui échapper plus sûrement, les flibustiers usèrent de faux pavillons; d'où, le cas échéant, de fâcheuses méprises.

Leur advient-il de combattre à terre ? les flibustiers s'y montrent aussi redoutables que dans la lutte sur mer. Leur tactique est très en avance sur son époque. Ils excellent à utiliser le terrain, à effectuer en rampant des marches d'approche, à se camoufler au moyen de branches et de feuillage dont ils s'affublent. S'ils montent à l'assaut, c'est en ordre dispersé comme ils ont vu faire aux Indiens. Au contraire, les troupes espagnoles, tant qu'elles appartiennent à l'armée régulière, se battent à découvert et en formation serrée; ainsi en va-t-il dans toutes les armées d'Europe. C'est à ces ruses, à leur incomparable virtuosité dans le maniement de l'arme à feu individuelle, à leur insigne courage aussi, que les flibustiers durent d'être presque toujours, et presque partout, vainqueurs.

A la Tortue, les affaires sérieuses se traitent rituellement au cabaret. C'est au cabaret qu'avant de partir en expédition on fait la chasse-partie, vrai contrat d'association obéissant à des règles strictes. C'est encore au cabaret, qu'au retour, on procède à l'équitable partage du butin. Œxmelin nous dit : « Le butin étant partagé, le capitaine garde son navire s'il le veut. Personne n'y retourne avant que le gain ne soit dissipé, ce qui ne dure guère parce que le jeu, la bonne chère et les autres débauches ne manquent point ». Œxmelin noircit sans doute un peu trop le tableau. Il fut, des flibustiers plus sages que ceux qu'il prend soin de nous dépeindre. Nous y reviendrons.

Au fait et en y regardant de plus près, quelle espèce d'hommes sont-ils ces personnages qui inspirèrent tant de romans d'aventures ? On nous les décrit tantôt comme de sinistres brutes, tantôt comme de sympathiques gangsters. Beaucoup d'écrivains ont contribué à les déformer. Aux auteurs de l'époque romantique, le cinéma emboîte le pas, travestissant la vérité historique. Faut-il se fier aux témoins ? Voici le portrait que nous trace Œxmelin d'un flibustier, le fameux capitaine Roc : " Cet homme s'est rendu si terrible que les Espagnols ne peuvent seulement pas entendre son nom sans trembler. Il a l'air mâle et le corps robuste, la taille moyenne mais ferme et droite et le visage plus large que long. Que voilà bien une brute accomplie " « Il est adroit à manier toutes les armes dont se servent les Indiens et les Européens, aussi bon pilote que brave soldat, mais terriblement emporté par la débauche. Il marche toujours avec un grand sabre nu sous le bras, et si, par malheur, quelqu'un lui conteste la moindre chose, il ne fait point de difficulté pour le couper par le milieu ou de lui abattre la tête. Aussi est-il redoutable à tous, et cependant on peut dire qu'on l'aime autant quand il est à jeun, qu'on le craint quand il a bu. » Certes, le portrait n'est pas édifiant. Mais citons ces quelques lignes extraites de l'ouvrage du Père Labat : « Le jeudi quatrième mars, j'allai rendre visite à notre voisin Monsieur Pinel, capitaine de flibustier. Il était arrivé la veille avec deux vaisseaux anglais qu'il avait pris au vent de la Barbade venant en droiture d'Angleterre et très richement chargés. Il me reçut avec mille civilités, et ayant su que je m'établissais à la paroisse de Macouba (nous sommes à la Martinique), il dit qu'il voulait contribuer à me mettre en ménage et me fit présent de six belles bouteilles et de douze verres de cristal avec deux fromages d'Angleterre... » (Ces bouteilles, ces verres et ces fromages n'avaient certainement pas coûté cher à Monsieur Pinel). « Ce fut ainsi que commença l'amitié qu'il a eue pour moi jusqu'à sa mort... Mon dessein était de m'en retourner le lendemain à ma paroisse, mais mon Supérieur m'arrêta pour assister à une grand'messe que les flibustiers de Monsieur Pinel devaient faire chanter le jour suivant en exécution d'un vœu qu'ils avaient fait dans le combat où ils avaient pris ces deux vaisseaux. Le vendredi nous fûmes occupés toute la matinée à confesser les flibustiers. On chanta une messe de la Vierge avec toute la solennité possible; je la célébrai et je bénis trois grands pains qui furent présentés par le capitaine accompagné de ses officiers, avec les tambours et les trompettes. La corvette de Monsieur Pinel et les deux prises qui étaient mouillées devant l'église firent des décharges de tous leurs canons à l'élévation du Saint Sacrement, à la Bénédiction et à la fin du Te Deum qui fut chanté après la messe. »

On se figure cette scène charmante : le rivage de la baie du Fort Saint-Pierre planté de souples cocotiers, la montagne verte, la petite église sur la berge, et les trois navires tonnante de toute leur artillerie pour honorer Dieu.

Le Père Labat poursuit : « Tous les officiers vinrent à l'offrande et présentèrent chacun un cierge avec une pièce de trente sols ou d'un écu. Ceux qui communièrent le firent avec beaucoup de piété et de modestie. » Accordez ceci avec cela si vous le pouvez.



A dire vrai, Cœmelin, encore qu'il n'ait pas cessé de faire autorité, semble un peu de parti pris. Peut-être en faut-il voir la cause dans le fait qu'il quitta la Flibuste passablement aigri. Il n'avait vécu que six ans aux Iles quand, en 1672, il prit passage sur un navire hollandais pour rentrer en Europe. Parti sans seulement demander son congé, il n'était rien moins qu'un déserteur. On sait par ailleurs qu'il était de son métier chirurgien. Bien différent de tempérament, le Père Labat est optimiste, jovial, bon vivant. Faut-il s'étonner qu'il n'ait jamais, à l'en croire, rencontré que de fort honorables et honnêtes flibustiers. Où est la vérité ? En ceci apparemment que les flibustiers ont constitué un agglomérat d'éléments excessivement divers. Dans cette curieuse confrérie se coudoient d'assez braves gens et des forcenés enclins à tous les excès, de courageux garçons attirés par le risque et l'aventure et d'abominables gredins, ivrognes, débauchés et cruels.



Pour eux tous la liberté ne se bornait pas à penser à leur gré. Ils voulaient être libres en toutes choses, dans leurs propos, dans leurs actes, dans leur comportement, leur façon de vivre, de se vêtir. A cette époque, la tendance n'était pas, comme il en va pour nous un peu chaque jour davantage, à être coulé dans le même moule. On n'éprouvait aucune honte à se singulariser; c'était bien au contraire un titre de gloire. L'élégance voulait qu'on affirmât très haut ses idées — fussent-elles contraires aux idées reçues — qu'on s'habillât autrement que le commun des mortels. L'individualité s'affichait avec orgueil.

En rupture de ban avec les contraintes, les lois de l'Europe, les flibustiers ont sacrifié au plus haut point à ce caractère de leur temps; c'est ce qui leur donne à nos yeux tant de relief, de couleur, de panache. Rien qui leur soit plus étranger que le conformisme. Tel va nu-pieds parce que sa chaussure le blesse, et ne se sent pas ridicule pour autant; que s'il plait à une femme de s'habiller en homme et de jouer du sabre, nul n'y trouve à redire. Beaucoup de flibustiers portent des bijoux, non seulement de gros anneaux d'or aux oreilles mais encore des bagues dont on s'orne les doigts, des chaînes qu'on se met au cou; pourquoi pas ? Ces bijoux seraient-ils mieux dans un sac à la ceinture ? Il suffit de savoir défendre son bien et de ne pas se faire scrupule de pourfendre quiconque voudrait s'en emparer. On porte la barbe parmi les flibustiers; on s'ingénie à la tailler de la façon la plus bizarre pour se donner une allure aussi martiale, aussi terrible qu'il se peut.

L'accoutrement d'un chacun dépend de ce que le partage des hardes prises aux Espagnols a fait tomber entre ses mains, et puis de sa fantaisie qui est d'une fertilité que nous avons

peine à nous représenter. On se garantit du soleil tropical en se couvrant ; il ne suffit pas d'avoir un chapeau sur la tête; on enveloppe encore celle-ci d'étoffes. Singulière façon de lutter contre la chaleur, mais qui est encore celle des Arabes et des Touaregs comme elle était et est encore celle des Indiens du Venezuela.

Il se rencontre des flibustiers qui affichent un luxe insolent; il en est pour qui les trous de leur cape et la vermine sont un sujet d'orgueil. Le « Général » — le titre existe — ne craint pas, bien au contraire, d'aller plus misérablement vêtu que tout le monde. On le connaît pour ce qu'il est, sa bravoure est ce qu'on sait. Alors, quel besoin de broderies, de dorures, d'écharpe ? Cependant certains chefs ne méprisent pas le faste et la magnificence. Laurent de Graff est du nombre; il entretient à son bord des violons pour se faire « régaler d'harmonie » si l'idée lui en vient.

Comme partout où l'on risque fréquemment sa vie, les dévots ne sont pas rares non plus que les mécréants; mais c'est encore la superstition qui l'emporte. Tous les marins d'alors sont

superstitieux; les flibustiers le sont à l'excès; aux croyances qu'ils ont apportées de leur province natale, s'ajoutent celles que les sorciers africains ont accréditées aux Iles.

Le goût du risque qui fait partie du métier favorise la passion du jeu. Aux dés, aux tarots, au lansquenet, on perd, regagne, reperd le bénéfice des courses. Né le plus souvent d'une querelle de jeu, le duel est presque toujours à mort.

L'un dans l'autre, nous sommes pourtant en présence de joyeux lurons. C'est le Père Labat qui nous le dit : « Tout était divertissant et singulier chez ces gens-là. Comme ils étaient indépendants les uns des autres, chacun vivait à sa manière, dormant ou chantant quand bon lui semblait et c'était à celui qui jouerait la plus belle farce à son camarade. »

Ils n'ont pas toujours du vin, boisson rare qui vient d'Europe; en compensation ils boivent des alcools terriblement agressifs : l'ouicou, le maby, l'eau-de-vie de canne ou guildive ou mieux tafia et qui, se perfectionnant, deviendra notre rhum. Ils boivent le sang-gris fait avec du vin de Madère, du citron, de la canelle, de la girofle en poudre, beaucoup de muscade; ils boivent de la limonade anglaise, aussi délicieuse que dangereuse assure le Père Labat; le punch enfin, sorte de cocktail où entrent tafia, lait, jaunes d'oeufs, poivre et bien d'autres ingrédients, et qui l'emporte en violence sur toutes les autres boissons.



*Le Départ des Iles, peinture de G. Alaux ⚔ pour la décoration du paquebot « Antilles » (Cliché Vizzavona).*

Vaniteux et infatués, ils ne se font pas prier, au cabaret, pour raconter leurs exploits; ils ajoutent au récit ce que leur suggère leur vantardise, et gare à qui les taxerait d'exagération ou d'entorse à la vérité; celui-là n'en serait pas quitte à moins d'un grand coup de sabre sur la tête, ou d'un bon coup d'épée dans le ventre.

Ils sont gens crédules. Ils ont l'imagination farcie d'histoires de trésors cachés. Quand le Roi en vint à proscrire la Flibuste, il se trouva des flibustiers pour se lancer dans d'in vraisemblables expéditions à la recherche de richesses enfouies; et certes il devait en exister et il doit en exister encore... mais où ? Tandis que ces cerveaux brûlés couraient après leur chimère, les plus turbulents d'entre les Frères de la Côte se dispersaient sur toutes les mers et jusque dans l'Océan Indien exerçant la piraterie en tous lieux, sans règle et sans frein. Mais on vit aussi des gens sages qui, comme tels, se firent une raison. Citons ce fameux capitaine Montauban venu finir ses jours à Bordeaux et qui, à défaut d'héritiers, légua son immense fortune aux pauvres de la ville; la rue Montauban y perpétue le souvenir de ce généreux flibustier. Ajoutons que beaucoup s'établirent dans les Iles pour y devenir de bons pères de famille et d'honnêtes et paisibles planteurs. Tel se montre à nous, sous la plume du Père Labat, un certain Roy dont on mesurera la prodigieuse ascension sociale : « On ne peut sans étonnement penser à la fortune de cet homme. Il était venu aux Iles en qualité d'engagé, dans les premières années que la Colonie commença à se former. Il était de Bordeaux, tailleur ou chaussetier de son métier. Le temps de son engagement étant achevé, il se mit à torquer du tabac qui était alors la marchandise des Iles, et, quand la saison de torquer était passée, 'il travaillait de son métier. Il s'associa avec un autre torqueur dont il hérita quelques années après. Il fit quelques voyages en course, et cela si heureusement qu'en très peu de temps il se vit en état d'établir une sucrerie. Quand j'arrivai à la Martinique, Monsieur Roy avait six sucreries dans l'Ile. Celle du Prêcheur où il demeurait était accompagnée d'une très belle raffinerie. On comptait plus de huit cents nègres travaillant dans ses établissements. Son fils aîné était capitaine de la Milice, et une de ses filles avait épousé Monsieur de la Fossillière, capitaine de vaisseau du Roy. Monsieur Jean Roy est mort en 1707, étant pour lors doyen du Conseil, premier capitaine de la Milice de l'Ile et, sans contredit, le plus ancien habitant. Il était pour lors âgé de plus de quatre-vingt-dix ans, Il a laissé onze enfants qu'il avait eus de Luce Bruman, sa femme... C'était un très bon homme, il était logé et meublé magnifiquement; il recevait parfaitement bien ceux qui allaient chez lui et il était charitable et bienfaisant au-delà de ce qu'on peut dire. Sa mémoire était si heureuse qu'il se souvenait des moindres circonstances des choses qui s'étaient passées depuis soixante et dix ans, comme si elles eussent été présentes. J'avais un plaisir extrême à l'entendre raconter les commencements de nos colonies, ses voyages... et ses aventures... »

N'est-elle pas charmante autant qu'édifiante cette image d'un très vieux frère de la Côte faisant ses confidences au bon Père Dominicain, sous la véranda d'une belle demeure, dans la tiédeur de l'air antillais ?

Au début du xviiiè siècle, la véritable flibuste a vécu; nos îles d'Amérique s'achemineront, dès lors, vers de nouveaux destins.

Gustave Alaux, de l'Académie de Marine.

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**Inséré le 21/05/12 News Logboek – Enlevé le 21/06/12**

## **Kerala wrong in detaining Italian ship: Centre to SC**

The Centre on Friday sparked a controversy when one of its law officers told the Supreme Court that Directorate General of Shipping felt that Italian ship **MT Enrica Lexie**, which is in the custody of Kerala Police, was in international waters and, therefore, beyond Indian jurisdiction when it was detained by cops. "It is doubtful whether the police station had the jurisdiction in this case. I have the coordinates of the ship. The vessel carried an Italian flag and was found to be at 20.5 nautical miles from the coast. Our territorial waters end at 12 nautical miles. Beyond it the international law would apply," additional solicitor general Harin Rawal told a bench of Justices R M Lodha and H L Gokhale. When asked by the bench, he said the merchant vessel "can be released".

Within hours, Rawal retracted his stance, claiming that what he said in court was his personal opinion, and that he had received no instruction from the government. As if in tandem, the shipping ministry also issued a statement denying that it was at odds with Kerala government on

the issue which has inflamed anti-India sentiments among sections in Italy. Even the ministry of external affairs chipped in as part of what appeared to be a damage-control exercise.



In a press release, the shipping ministry stressed that it had filed no affidavit before the Supreme Court "nor any such instructions were given to

the government counsel". "There is no difference of opinion between the Centre and the state government," the ministry further said.

The Italian merchant ship has been in Indian custody since February 15 when two naval guards on it opened fire killing two Indian fishermen after they mistook the latter's trawler to be a pirate vessel. The two marines are in detention, with authorities as well as kin of victims rebuffing all overtures for an out-of-court settlement. The ship owners had moved the court challenging the detention of the ship by Kerala Police.

Raval' statement that Directorate General of Shipping had no objection for the release of the ship weakens the legal force behind Kerala Police's decision. Significantly, the day also saw the Italian government, through its embassy, moving a fresh petition in the apex court claiming that trial of the two Italian marines in the state was vitiated because of violation of international law as well as surcharged atmosphere. The Italian government pointed to the alleged location of the ship in international waters: a claim now supported by the Directorate General of Shipping. The Italian government on Friday again argued that the two marines be handed over by the state government to the Indian government for further action under international law.

Indian government has asserted its right to try the two Italians under Indian law on the ground that they are accused of killing Indian nationals on an Indian vessel, arguing that the issue of whether the Italian vessel was in international waters at the time of shooting was not relevant to the case. The stance was reaffirmed by MEA after Rawal's statement in SC. "The MEA's position remains the same. We have jurisdiction," a ministry spokesperson said, adding the shots were fired at a vessel registered in India.

Rawal's statement, which he later termed as his personal view, appeared to have surprised the SC bench, with the two judges asking, "So, according to you, Kerala Police has no jurisdiction to try this case." Raval said, "It is doubtful whether the concerned police station in Kerala had jurisdiction." The bench said, "We do not expect such a stand from the central government when citizens of this country have been killed. It is very unfortunate as the persons killed are within Indian territory."

However, the bench seemed equally puzzled by Kerala government's decision to detain the ship. "Do you attach a train just because a crime has occurred in it? It is a very strange case where the ship is attached even when there is nothing to remotely suggest it had any association with the crime." The bench posted the matter for further hearing on April 30. An hour after the bench decided to adjourn the case to get the response of the families, Raval clarified to TOI that whatever he told the court were his personal views on the case and that he had not got any instruction from the government.

Congress spokesperson Manish Tewari said, "It is not uncommon that in a court of law, you have different ministries of the government at times taking different stances. It may be reflective of the position of a particular department. We do fundamentally believe where Indian lives are involved, where Indian citizens are involved, every government -- the central government and the state

government -- has every right to take whatever action they deem appropriate in larger national interest." Opposition BJP spokesperson Rajiv Pratap Rudy said, "We are not on the fact as to who was wrong and who was right, as the court should take a call on that, but we are concerned about the shooting incident in which the poor fishermen got killed." **Source : IndiaTimes**

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**Inséré le 23/05/12 Open forum – Enlevé le 23/06/12**

## **Port Wi-Fi and WiMAX - Implications for seafarer welfare**

In a report commissioned by the International Committee on Seafarers' Welfare, Dr Olivia Swift, Greenwich Maritime Institute, examines the availability of wireless web access in world ports, and some of the implications for the global population of seafarers – as well as the maritime industry as a whole

### **Communicating with home is of paramount importance to seafarers and their welfare.**

Being able to stay in touch with family and friends can have a significant positive effect on seafarers' mental wellbeing while they are away from their loved ones for several months at a time, often working in small crews with limited shore leave.

In countries such as the Philippines, from where more than 330,000 seafarers originate, anxieties about perceived social costs of labour migration are widespread among politicians, scholars and the public at large. Correspondingly, the Philippine state and communication companies promote improvements in communication technology as benefiting the Filipino family, as well as the wider society and nation.

It follows that, beyond the Philippines, similar levels of optimism surround communication technology and its potential to lessen the social costs of separation among migrants' families, including those of seafarers.

At present, seafarers' access to the internet and phones aboard ship is both limited and expensive.

In E. Kahveci's 2007 report, *Port-based Welfare Services for Seafarers*, for the Seafarers International Research Centre at Cardiff University, he cites just 16 per cent of seafarers having access to e-mails onboard, even though seven out of ten seafarers felt access to e-mail to be important.

40 per cent of officers had access to e-mail, compared to just 3 per cent of ratings, although this access was usually restricted to work usage. Those who were able to access e-mail for personal use were often limited in the length and number of e-mails they could send and some had to pay to send and/ or receive e-mails.

A lack of privacy in the use of e-mail was also a common complaint, as was the fact that access to e-mail for personal use was often dependent upon the goodwill of the captain.

Given the limited availability of e-mail at sea, Mr Kahveci reports seafarers using satellite phones as their main method of communicating with home, which are expensive, followed by personal mobiles (primarily for texting) when in range of a signal.

### **Shore communications**

If able to go ashore while in port, seafarers can take advantage of varying communication facilities in seafarer centres.

While some centres only provide phone cards for use in the nearest public phone box, others are equipped with computers linked to the internet, or with Wi-Fi signals to which seafarers can connect using their own wireless-enabled devices.

It is not clear what percentage of seafarers sail with personal laptops; one welfare worker interviewed during this research in the Port of Antwerp, Jorg Pfautsch, estimated almost all officers to have laptops, compared to 20-30 per cent of ratings – although he and others considered this number to be rising.

A new development affecting seafarers is mobile WiMAX, a wireless network technology that differs significantly from Wi-Fi in the way in which it operates – Wi-Fi typically offers a maximum range of 50m indoors and 100m outdoors while WiMAX provides wireless reception over greater distances.

A small minority of welfare organisations have begun to take mobile WiMAX technology on ship visits so that crew can connect to the internet via their personal computers without having to come ashore.

While there is potential for growth in the number of welfare workers taking mobile WiMAX onto ships in this way, the numbers of seafarers benefiting from the technology would remain modest.

In contrast, WiMAX or Wi-Fi that covers the entire area of a port, including its waters in which ships are harboured, has the potential to reach many more seafarers, enabling them to connect to the internet and communicate with friends and family via e-mail, social networking sites and applications such as Skype.

As well as offering vast improvements to the lives of existing seafarers and their families, this technology would also make seafaring a more appealing career choice among younger generations for whom internet access is embedded within day-to-day life.

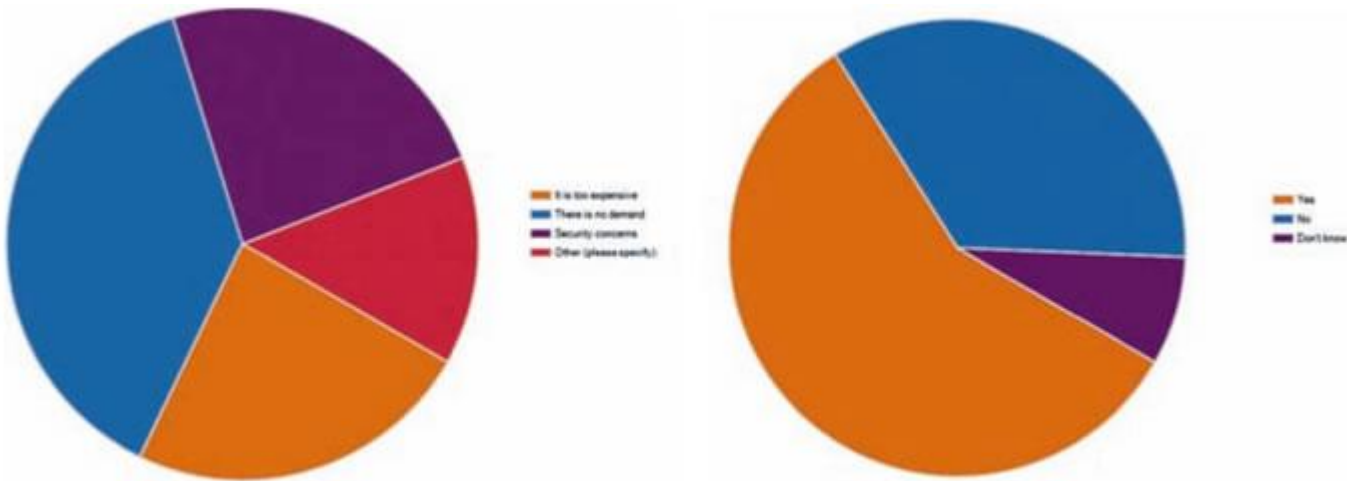
It follows that improving seafarers’ access to the internet is critical in addressing the global shortage of officers.

**Study**

The research conducted for this International Committee on Seafarers’ Welfare report combined an online survey of port authorities with semi-structured interviews with a selection of individuals, mostly representatives from port authorities and welfare organisations.

The survey asked respondents whether their ports had (or had plans for) a portwide wireless network, whether seafarers could access it and at what cost.

Where ports lacked port-wide wireless networks the survey questioned respondents about their reasons for not having such technology. In cases where ports had port-wide wireless networks but



*ICSW survey results – What are the main reasons against implementing port-wide Wi-Fi and/or WiMAX? (left); and Can seafarers use the port-wide Wi-Fi and/or WiMAX to use the internet? (right)*

seafarers were unable to access them, the survey investigated reasons for this lack of access.

Interview and survey comments showed several port authorities to support the principle of allowing seafarers access to the internet via port-wide wireless systems.

Comments included these from two port authorities – “It would be very positive for seafarers if they could have access to Wi-Fi in our ports”, and “The seafarers can use the internet at the seamen’s mission. It would of course be good if they could use also the Wi-Fi when they are onboard. We have to look at that.”

Despite these enthusiastic examples, the interview data suggests port-wide wireless networks to be rare.

Of ports responding to the survey, 32 per cent had port-wide Wi-Fi and 10 per cent had port-wide WiMAX. 26 per cent of those ports with neither reported having plans for this technology in the future.

Of those ports with port-wide wireless networks, 58 per cent allowed seafarers access to the networks, of which 38 per cent gave seafarers access for free.

Although these figures reflect relatively low numbers of ports, they offer encouraging signs that some ports are furthering seafarers’ welfare by allowing them access to this technology.

Taken in conjunction with the interview data, the survey data informs this report’s discussion of the benefits and issues surrounding port-wide Wi-Fi and WiMAX in relation to seafarer welfare. It is hoped that the report will equip the wider industry to then take this discussion forward.

## **Supply and demand**

The main reason respondents gave for not having port-wide Wi-Fi or WiMAX was a lack of demand.

“We are not against it,” said an IT manager at Associated British Ports, “it’s just never come up.” These comments relate to a second main reason respondents offered for lacking port-wide network technology – “it is too expensive.”

Several port authorities interviewed were unable to justify the cost of establishing port-wide Wi-Fi or WiMAX since they could not see how such an initiative would deliver revenue in return. Consequently, these respondents felt a port-wide wireless network would only result if sufficient demands were made of ports.

To quote from an employee at the British Port of Felixstowe: “We have over 800 acres here; the cost of establishing a network would be colossal. We prefer to keep our frequencies for business use; providing a port-wide network for seafarers’ use would have to be forced upon us. I’ve not heard of British ports offering such a thing.”

The following comments from port officials in various countries indicate others’ concerns about expense.

According to Lourens Visser, head of information division, Port of Rotterdam, Netherlands: “We have a vast area here in Rotterdam with a number of propagation issues: buildings, large ships and mountains of coal and ore, etc. To have portwide Wi-Fi would be a vast investment with doubtful added value. I doubt it would bring equivalent increase in traffic; it’s not a strong business case.”

The IT manager at the Port of Tilbury, UK, said that: “We would need revenue on the back of it [port-wide Wi-Fi/MAX]; we have to think of the bottom line. We were approached by a company in London interested in providing a network service to the public in the port but it turned out to not be worth their while, given the limited number of potential subscribers.”

Mark Brennan, IS manager at the Port of Taranaki, New Zealand, also noted that: “There would be a minimal cost involved in setting it [a portwide wireless network] up. With potentially more capital and ongoing maintenance costs (to address the management of traffic and content to non-port traffic), we would need approval of senior management, as it is definitely not driven by core business requirements.”

## **Concerns about the cost of port-wide wireless networks are justified.**

The Port of Rotterdam estimated that a port-wide Wi-Fi network would cost in the region of €10m (although this estimate may have decreased in the two years since it was obtained by the port).

In New Zealand, the Ports of Auckland's partial Wi-Fi network cost NZD\$0.5m and port-wide Wi-Fi in the Russian Port of Vladivostok cost USD\$30,000.

The cost of installing and operating a port-wide wireless network varies between ports and is largely influenced by a port's area and topography, which partially determine the extent of wiring and number of antennas required, and by the type of wireless technology involved.

Inevitably, installing and operating a port-wide wireless network is a considerable investment and includes the cost of infrastructure, building permits for antennas, relevant software and maintenance costs.

However, it is worth noting that portwide wireless technology does not lack potential for generating revenue, even if it is modest in comparison to the cost of network installation.

For the Port of Antwerp, Belgium, providing port-wide Wi-Fi at no cost to all port users, including seafarers, is a marketing device that helps the port compete as a public company.

As such, the port's Wi-Fi is expected to increase the port's overall profits, although its success in doing so is presumably difficult to measure.

In more tangible terms, the research survey suggested ten ports to be charging seafarers and possibly other users for access to their wireless networks.

In the Port of Vladivostok seafarers have been able to connect to the internet via port-wide Wi-Fi operated by Port Telecom Co Ltd since 2005.

To date, seafarers have required a login and password from a Port Telecom office in order to use the system (and it is therefore unclear how many seafarers are able to use the system), but the company has imminent plans for seafarers to be able to both pay for and access this information via SMS on their mobile phones.

In Singapore, seafarers and other users will pay to use the port-wide WiMAX after the system's trial is completed, while Pieter Bakker of the Ports of Auckland speculated that were the port to offer portwide Wi-Fi, it "would need to install software and receive payment for internet access."

Cor Oudendijk of the Port of Amsterdam, Netherlands, suggested a further way in which a port-wide wireless network can contribute to the bottom line of ports – by reducing the fees ports pay to port agents.

## **Security**

The third main reason respondents cited for not providing port-wide Wi-Fi or WiMAX was security concerns: fears that a port-wide network would compromise the secure handling of ship and port information systems.

Comments from various ports included: "The only issue keeping us from doing this [installing port-wide Wi-Fi/MAX] is security"; "It's not a good idea to have WiFi or WiMAX in port area for security reasons"; and "Security reasons do not allow non-employee access to the network."

Security concerns were also the most common reason for those ports with partial or port-wide wireless networks to not allow seafarers access to it.

### **Two examples from New Zealand provide further insights.**

According to Pieter Bakker at Ports of Auckland: "At this stage we have an infrastructure that can only host those security checked to be on our network."

"The Ports of Auckland have had portwide Wi-Fi for almost a decade, which is used to facilitate communication between container handling equipment (CHE) and host systems."

"Since the system has suffered interference from other Wi-Fi networks from nearby apartments, as well as attacks on the system that prevent access, we do not provide access to non-port workers for fear of attack from hackers in nearby apartments wanting to use the network for free, which would compromise the core purpose of the Wi-Fi: CHE connectivity."

Mark Brennan, IS manager at the Port of Taranaki, also notes that: "We have partial Wi-Fi coverage, for internal port company use in areas where wired infrastructure is not available."



"Were we to open this out to users outside of the port company, there would be potential for internet access abuse, such as downloading illegal content, which would potentially fall back on the port as the provider of service and could lead to a loss of the port's internet access."

The security concerns expressed in the comments above are twofold – concerns about the security of port and ship information systems and, secondly, that ports would be held responsible for any downloading of illegal material via the wireless network they provide.

In most national jurisdictions, if not all, Wi-Fi providers are not responsible for any illegal downloading by their customers, although employers can be liable for illegal downloading by employees.

Port authorities therefore need to be clear about the nature of their relationship to the potentially multiple categories of people using their wireless networks as well as the legislation applicable to these relationships in cases of illegal downloading.

The Port of Antwerp, where port-wide Wi-Fi has been operating for over two years, provides an example of a port that has secured its wireless network by taking its own precautionary measures.

The success of the port at doing so implies other ports could achieve similar levels of security by taking the same or equivalent steps.

"Security is definitely a concern with Wi-Fi networks," said Johan Deleu, Port of Antwerp.

"There are two reasons why it is not a problem in our setup. Firstly, our infrastructure allows us to make 'virtual networks' that are not connected at all to the company network; the only 'way out' is directly to the internet. Even for the internet access itself, we have a completely separate connection with an independent service provider. The company internet connection is not used by the Wi-Fi users."

"The second reason why security is not a problem is that, for our own ships, connection to the corporate network is not only encrypted on Wi-Fi, but also uses end-to-end IPSEC VPN tunnels (a special security protocol). During 2011 security will be enhanced even further by authenticating every individual PC that wants corporate network access."

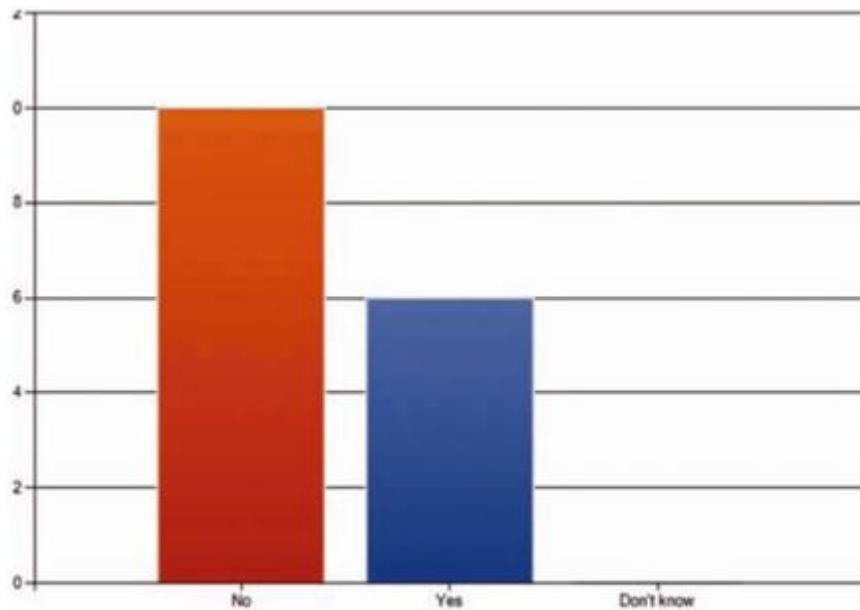
In the port of Singapore the WiMAX signal is provided by a telecommunications commercial partner for use by individuals, such as seafarers, and also by businesses and other organisations operating in the port area. Users are responsible for securing information, via security software on individuals' devices and security protocols such as VPN tunnels in the case of businesses (as used by the Port of Antwerp).

## **Threat to welfare organisations**

Another concern research participants voiced about port-wide wireless technology was that it posed a threat to seafarer centres, either because the technology discourages seafarers from using centres or because centres' welfare workers sell seafarers fewer phone cards.

The following comment from Jon Moore, Northport, New Zealand, is illustrative of participants' fears.

"The port fully sponsors the seaman's mission where access to the internet is provided," he said. "Whilst we have not dismissed Wi-Fi throughout the port, I am concerned that it would stop seafarers from venturing ashore. This would then give cause for the mission to close its doors and we already struggle for support from the seafarers."



*The ICSW survey showed that, at the majority of ports that responded, internet access was not free for seafarers*

Given the inevitability of technology's continuous development, a small minority of port welfare organisations are responding to port-wide network technology not as a threat but as an opportunity to better meet the welfare needs of seafarers, particularly since limited shore leave means seafarers are often not able to make use of seafarer centre

facilities in the first place.

In the port of Kandla, India, welfare workers have begun taking mobile WiMAX with them on ship visits which enables crew to connect to the internet using their laptops.

Although Kandla is an isolated case study, Mission to Seafarers, which has seafarer centres in 119 ports around the world, is a year into their review of existing wireless technology with a view to equipping their centres with WiMAX.

"We are very keen that seafarers unable to come ashore to the seafarer centres are still able to communicate with their families," explained the Mission's Ken Peters.

The Mission is investigating what infrastructure and technology is required, the cost of purchasing and installing such equipment, and whether individual centres would be able to bear the costs alone.

According to Mr Peters, the Mission foresees using a log-in system that would allow access to the internet for a limited period (akin to the existing Wi-Fi system in seafarers' centres), thereby allowing the Mission to charge appropriately for the service in order to compensate for the expected decline in revenue from the sale of phone cards to seafarers.

The Kandla and Mission to Seafarers examples highlight some of the ways in which concerns about the threat of new technology to welfare organisations' viability can be addressed. These, along with the main advantages of port-wide Wi-Fi and WiMAX to the operations of welfare organisations, are listed below:

1. Shore leave. Port-wide Wi-Fi and WiMAX address some of the problems linked to seafarers being unable to come ashore by allowing them to connect to the internet aboard ship.
2. Adding value to ship visits. In cases where welfare workers take mobile WiMAX aboard ships, or when they provide information and/or hardware enabling seafarers to connect to wireless networks, they add value to ship visiting beyond the core service of providing pastoral care.
3. Port-wide Wi-Fi and WiMAX need not deter seafarers from coming ashore. Anecdotal evidence from welfare workers in ports with port-wide Wi-Fi or WiMAX does not suggest this technology to be deterring seafarers from coming ashore. For example, Jorg Pfautsch of the German Seamen's Mission in Antwerp remarked that: "Plenty of seafarers visit the seamen's club each day to use the club's Wi-Fi. Off the ship is more relaxed and they have time to phone home, surf the internet and read the news online."

4. Port-wide Wi-Fi and WiMAX need not affect welfare organisations' revenue from the sale of phone cards. Again anecdotally, welfare workers in ports with port-wide Wi-Fi or WiMAX did not report a decline in sales of phone cards. To quote Mr Pfautsch of the German Seamen's Mission in Antwerp once more: "In terms of whether the Wi-Fi encroaches on our revenue from selling phone cards, I would say no, not yet – we have still enough phone-card customers."

Some welfare organisations working in locations with port-wide Wi-Fi or WiMAX have been able to sell international phone cards that seafarers use in other ports, as has been the case in Kandla where the Seafarer Welfare Association has started selling these cards alongside investing in mobile WiMAX technology. In Antwerp, the German Seamen's Mission is looking to sell prepaid internet SIM cards to seafarers for use in other ports. These cards use 3G technology to provide internet access via mobile phones. "We are receiving increasing numbers of requests from seafarers for prepaid internet SIM cards," said Mr Pfautsch. "Since the market for these cards is still small in Belgium, we are not yet able to offer a suitable product at present but we hope this will change by the end of the year. I have in mind a prepaid internet SIM card for selling in the region of USD\$5-7 with unlimited data download valid for 1-2 days. In time, such a card may replace phone cards."

In summary, unless port-wide Wi-Fi and WiMAX become commonplace, welfare organisations look able to continue raising revenue from a range of evolving products, in order to meet the communication needs of seafarers in the ports beyond those that are Wi-Fi or WiMAX enabled.

5. The significance of existing revenue from the sale of phone cards is questionable. In the port of Kandla, concerns that port-wide WiMAX would threaten the welfare organisation's revenue from the sale of phone cards have proved misplaced, not least because such revenue is minimal. As Joseph Chacko, of the Kandla Seafarer Welfare Association, notes: "...there is not much revenue in selling the card as we sell at very low cost to the seafarers. The people most affected by the WiMAX are the petty traders renting USB internet sticks to seafarers at prices as high as USD\$20 per 24 hours of use."
6. Port-wide WiFi and WiMAX provide their own potential for revenue generation. By using a system in which seafarers pay for log-in details that expire after a set period of time, welfare organisations would be able to raise revenue, as suggested earlier by Ken Peters of the Mission to Seafarers. Given the appeal to seafarers of being able to access the internet aboard ship, revenue raised in this way has the potential to amount to more than that currently earned from the sale of phone cards.

## Usage of existing networks

In ports such as Antwerp and Singapore, port-wide wireless networks offer seafarers the opportunity to communicate with home via the internet at no cost, without having to go ashore. This marks a significant improvement in seafarer welfare.

It is worth noting however that seafarers appear to differ in the ease with which they use the networks, with some not using them at all. This may be the result of seafarers still becoming familiar with the systems that are still in their infancy. Jorg Pfautsch of the German Seamen's Mission in Antwerp reported that for seafarers who use computers relatively frequently connecting is straightforward, while for others it is more difficult.

Welfare workers are instrumental in providing seafarers with information they need to connect to the network, along with port agents.

Mr Pfautsch also noted, as did the port, that the strength of the signal varies according to "...the ship's proximity to the Wi-Fi antennas, the seafarer's computer hardware and his location on the ship, with the bridge deck offering the strongest signal.

Often cargo handling and cranes interrupt the signal. Few seafarers are using additional antennas to boost the signal."

In the case of Singapore, feedback was mixed regarding the extent to which seafarers are using the port's WiMAX network.

One seafarer remarked that his colleagues who had recently passed through Singapore reported that 'all was fine' with the network. In contrast, comments from welfare workers and shipping companies suggest many seafarers not to be using the WiMAX network at all.

According to Christian Schmidt of the German Seamen's Mission: "Most of our ratings are using our centres or going ashore. Some seafarers, who come frequently to Singapore, use a [3G] dongle provided by a company called Starhub, which allows pay-per-day usage at an affordable rate."

"Some port agents also provide dongles for the crew, such as APL in the Brani terminal [of Singapore]. In these cases, seafarers also pay by the day and then return the dongle to the port worker."

Leonard Harbottle of BW Shipping supported the impression that seafarers are not fully benefiting from the port's WiMAX.

"It is my understanding that that it [the WiMAX] really only benefits vessels berthed alongside and within the container port," he said.

"We also believe that there are some technical IT issues – it is not a simple case of hooking up your laptop to a system at no cost. We also believe that there is a limit on its [the WiMAX's] range; this is one of the reasons we are not using it."

"Our fleet, which primarily comprises tankers, rarely visits the port of Singapore but transits the straits on an almost daily basis and we also do a lot of bunkering, storing and crew changes within and beyond Singapore port waters. Our entire tanker fleet will have a VSAT [satellite] broadband system by the year's end, which crew can use for free."

Another BW employee reported similar sentiments, saying: "From what I gathered from a few of our seamen and port colleagues, none of our seafarers have used the WiMAX while in Singapore or at any Wi-Fi enabled ports, due to inconvenience and a limited number of users at one time per vessel."

"Normally the system works using a dongle that the port agents provide free of charge to the master; one dongle per vessel.

This limits the usage to one laptop, which is usually controlled by the master." Although anecdotal, the comments above suggest seafarers to not be benefiting fully from existing port-wide Wi-Fi and WiMAX systems due to a number of reasons that include:

1. Issues with the range and uneven signal strength of wireless networks. This is known to be a problem with Wi-Fi in particular. While the Port of Antwerp is eager to address these limitations as part of its improvement work, it is important that similar measures are factored into the maintenance programmes of other portwide Wi-Fi networks.
2. Issues of access to the hardware required for connecting to wireless networks. There are two components to this point: firstly, seafarers without personal laptops are reliant upon limited access to ship computers to communicate with home using port-wide wireless networks.

Secondly, WiMAX networks appear to require additional hardware in the form of a dongle, modem or antenna in order for seafarers to connect their computers to the internet via the WiMAX network.

In Singapore, port agents are reported to provide every ship visiting the port with a dongle for connecting to the port's WiMAX. It seems that without additional hardware, seafarers remain reliant upon limited access to the internet via one computer controlled by the ship's captain.

It is unclear to what extent other seafarers in the port are able to access the hardware necessary to connect their laptops to the WiMAX internet and where responsibility falls for providing this hardware.

## **Wireless expansion**

The wider problem of improving seafarer access to the internet lies in the limited number of ports with port-wide wireless networks. Although such systems are not without potential for generating revenue, the cost of their installation remains a major deterrent to their proliferation.

In ports with an existing degree of wireless infrastructure, such as Amsterdam, the cost of developing a network through which seafarers can use the internet is significantly lower than that of developing such a network from scratch.

However, doing so requires both ports' concerns about the security of their information to be addressed (using measures such as those taken by the Port of Antwerp, outlined above), as well as the willingness of ports to incorporate the needs of seafarers into their technology strategies.

This sentiment is also shared by some other ports, including Rotterdam.

"We were supposed to be involved in a WiMAX trial along with parts of the emergency services and local government, but the company that was going to provide the signal no longer owned the frequency so now we are looking for a new solution," said Lourens Visser, head of information division, Port of Rotterdam.

"At present, we use 3G to communicate with our vessels and next year we are changing the mobile signal supplier. There are concerns about the quality of the signal from the new provider and it might be that WiMAX provides a back-up system, or indeed the primary means of communication with the potential of also allowing seafarers access to the internet."

"I could certainly see how WiMAX could play a marketing role for the port and how we could combine the welfare of seafarers with our own commercial interests. We charge port fees so need to give services in return."

The situation Mr Visser outlined raises a further obstacle to the spread of WiMAX technology in ports – the need for a commercial partner licensed to supply the WiMAX frequency in the port area.

In the Port of Kandla, welfare worker Joseph Chacko describes the need to keep abreast of new products that would enable seafarers' access to the internet aboard to continue, should the WiMAX signal no longer be available.

"The engineer from the current WiMAX provider assured me that they will continue to offer WiMAX," he said.

"Meanwhile I have found new technology: a new 3G router, DIR-457 by D Link, which costs around INR10,000 (which may come down in price in a few months) and a 3G card which is currently provided by BSNL and MTNL [Indian internet service providers] and will be launched by other providers all over India."

"You insert this 3G card into the router and then carry the same in your pocket onto any ship. Once switched on, the device turns the mess room into a Wi-Fi zone, allowing approximately 16 laptops to be connected to the internet."

Mr Chacko demonstrates the engagement with changing technology that is necessary for seafarers to be able to communicate with their families via the internet aboard ship.

Existing and emerging technology, including Wi-Fi, WiMAX, 3G and 4G, offer varying advantages and disadvantages. Given the differences between ports, the solutions for enabling seafarer access to the internet will vary between ports.

What seems likely to assist ports in reaching solutions suited to their specific needs and characteristics is increased communication between ports, including welfare organisations working within them, regarding developments in technology and experiences of using these technologies.

This report is intended to begin such a dialogue.

## **Conclusions and recommendations**

Increasing seafarers' access to the internet promises to both improve seafarers' welfare and improve recruitment and retention rates across the industry facing a global shortage of skilled workers.

While this research has shown portwide wireless technology to have considerable potential to help increase seafarers' access to the internet aboard ship, it has also highlighted a range of issues needing to be resolved in order that their potential be realised.

At present, only a minority of ports appear to have port-wide wireless networks via which seafarers can access the internet aboard ships.

Most commonly, ports without this technology cited a lack of demand, followed by concerns about the costs associated with the technology, and security risks surrounding it, as the main reasons for neither having installed it nor having plans to do so in the future.

In ports where a port-wide wireless network exists but seafarers are not able to access it, the main reason offered for seafarers' lack of access was, again, concerns about the security of port and ship information systems.

Among other concerns that research participants expressed was a fear that port-wide wireless technology threatens the viability of seafarer centres, either because the technology discourages seafarers from using centres or because centres' welfare workers sell seafarers fewer phone cards.

Overall, the research found a number of practical impediments to the proliferation of port-wide wireless technology and seafarers' access to it, as well as a 'bottomliné culture among ports in which the needs of seafarers, while not disregarded, were peripheral to port operations and planning.

Drawing on the discussion of these and other issues in the previous sections, the following recommendations offer a range of measures to help address respondents' concerns and increase seafarers' ability to communicate with friends and family while away from home:

1. In ports with existing port-wide wireless networks, many of the respondents' concerns have been confronted and at least partially resolved. It is recommended that communication be increased between ports in order to promote the sharing of knowledge, experiences and concerns about port-wide wireless and other technology benefiting seafarer welfare, possibly administered by an umbrella organisation such as the International Association of Ports and Harbours. This would help ports address concerns about the security of port-wide wireless networks, help them source wireless infrastructure at competitive rates, provide clarity about the law regarding ports' liability for any illegal downloading by network users, and provide alternative solutions should a WiMAX signal provider no longer operate or when new and improved technology becomes available. Increased communication between port authorities would create a culture of 'best practice among ports in relation to seafarer welfare as well as assisting them in meeting their own information and communication system needs in as efficient a way as possible.
2. As well as increasing communications between port authorities, it is recommended that port authorities work more closely with port welfare organisations in order to better use available technology to meet both the welfare of seafarers and commercial interests of the port as a shared concern. Additionally, welfare workers appear well placed to provide seafarers with the information and assistance they require when connecting to existing port-wide wireless networks. There needs to be clarity about which organisation(s) should bear the cost of port-wide wireless networks as well as benefit from any revenue they generate.
3. Following the examples of the Kandla Seafarer Welfare Organisation and Mission to Seafarers, welfare organisations are encouraged to see port-wide wireless networks as an opportunity to better meet the needs of seafarers rather than as a threat to seafarer centres and welfare organisations' revenue from phone-card sales. It is recommended that welfare organisations keep abreast of developments in communication products and other sources of revenue that could replace and/or add to the revenue currently generated from the sale of phone cards.
4. Although the cost of port-wide wireless technology will be prohibitively high for some port authorities to bear, ports with an existing degree of wireless infrastructure are urged to explore expanding this infrastructure and opening it up to seafarers. It is recommended that the industry consider an incentive scheme by which ports looking to provide seafarers access to port-wide wireless networks at little or no cost might receive assistance with meeting the cost of doing so.

5. Shipping companies and their relevant membership organisations might consider advocating increased port-wide Wi-Fi and WiMAX, which benefit their crews and provide a cheaper means of communicating for business purposes than satellite technology.
6. In ports with existing port-wide wireless networks, there needs to be clarity about which organisation(s) is/are responsible for ensuring seafarers have access to any hardware needed to connect to these systems. This hardware includes dongles, modems and/or antennas in the case of WiMAX, and also laptops for those seafarers without their own. Failure to do so means seafarers being reliant upon accessing the system via only one computer, to which the ship's captain determines access.
7. It is recommended that ports with existing port-wide wireless networks continue to be alert to (or solicit) feedback about their networks' performance and carry out regular improvements and upgrades to their systems. It is also important that where seafarers are required to pay to use networks, the cost is kept low.
8. Given the limited range of portwide wireless networks, whether based on Wi-Fi or WiMAX technology, it is recommended that owners and other parties continue to look at ways of improving seafarers' access to the internet beyond port waters. DS

This article has been adapted from the original report 'Developments in New Technology & Implications for Seafarers' Welfare – Seafarers' access to Wi-Fi and WiMAX in ports', commissioned by the International Committee on Seafarers' Welfare and authored by Dr Olivia Swift, research associate, Greenwich Maritime Institute.

The original report, including all references, diagrams and further analysis of specific port facilities, is available for download at: [http://bit.ly/icswwifi\\_1](http://bit.ly/icswwifi_1)

**Inséré le 25/05/12 Open forum – Enlevé le 25/06/12**

## **Marine evacuation systems: a viable alternative to lifeboats**

With MES now in its fourth decade it is now a well-proven system with clear advantages in certain applications, says Richard McCormick, Marin-Ark sales manager, Survitec Group.



Lifeboats have been the default evacuation system of the marine industry for over a century yet they lack the safety features and testing to match up to Marine Evacuation System (MES). Developed by

RFD in 1979 and since emulated by many, MES has proven its ability to continuously develop and evolve. With the likes of P&O Ferries installing MES systems on its fleet and over 500 successful deployments, it seems the tides are starting to turn.

Progressive operators are increasingly seeing MES as the preferred life saving appliance (LSA) solution. With its tried and tested technology in place for over 30 years, it is a recognised system for enhancing ships' emergency procedures and improvements in evacuation capabilities.

**How is it different?**

In a nutshell, MES is a system that provides mass evacuation via inflatable liferafts & vertical chute technology that is automatically deployed and inflated. RFD's Marin Ark II provides enclosed evacuation chutes and four connected fully reversible liferafts with a compact launching and stowage arrangement. These units are more compact than lifeboats and have been shown to be rapid, safe and effective in deployment. Rigorous testing, including full sea trials in Beaufort Sea State 6 winds and 3m wave heights, have endorsed the MES safety features.

**Regulation**

In addition, MES is claimed to vastly increase evacuation capacity. No other single LSA has been capable of rapidly and safely evacuating 790-plus persons in less than 30 minutes. In comparison, a lifeboat holds fewer people so a greater number of lifeboats are required on-board. The trend in the marine industry shows that vessels are getting larger - for example the new Carnival and Royal Caribbean cruise ships carry a great number of passengers, so reliable & efficient mass evacuation is key.

So why does marine regulation favour lifeboats? Despite MES's proven efficiencies and capabilities the marine industry in general continues to favour lifeboats. Survitec would argue that there is a case for the regulators to now catch up with industry operators and take heed of the obvious safety enhancements MES provides. The recent deployments of RFD's Marin Ark II onto new ships such as ferries Spirit of Britain and Spirit of France are a case in point where the industry is taking the lead. P&O Ferries has installed 40 MES on its fleet of 20 ships, of which 26 are on the Dover-Calais route and eight in the North Sea. Overall, Survitec has a successful track record of MES installations and a successful track record of deployments. The tide is changing.

**Preferred**

It is clear that and Survitec become the for all mass future of It is clear that lifeboat is perhaps its emphasised in advancing 21st Lifeboats, unchanged, staple of the and while the will significant in innovation, we will help move even further



**option**

MES is evolving believes it can preferred option evacuation in the passenger ships. the role of the changing and shortcomings are a steadily century industry. relatively have been the last 100 years next few years undoubtedly be terms of safety believe Survitec marine safety forward.



**Inséré le 27/05/12 BOOKS BOEKEN LIVRES – Enlevé le 27/06/12**

## **“De Golf van Biskaje”**

**Door : Frank NEYTS**

In de reeks ‘**Wereldzeilers Bibliotheek**’ verscheen bij De Alk & Heijnen Watersport “**De Golf van Biskaje. Voor de tiende keer**”. Het boekje werd geschreven door **Ben Hoekendijk**. Veteraan-zeezeiler Ben Hoekendijk (73) wil het nog één keer doen: met zijn “**Shalom IV**”, een zeiljacht van iets meer dan negen meter, de beruchte Golf van Biskaje oversteken en onderweg interessante mensen die iets met de zee hebben interviewen. De Noord-Spaanse kust met zijn aparte cultuur en schitterende natuur trekt hem. Daarlangs loopt de pelgrimsroute naar Santiago de Compostella waar Ben met pelgrims spreekt over de universele zoektocht naar verdieping en vrede. Op een leeftijd waarop veel mensen het kalmer aan gaan doen levert Ben, die onlangs geridderd werd vanwege (onder andere) zijn zeilprestaties, een sportieve prestatie die er wezen mag. Behalve de oversteek over de ‘Angry Bay’ zeilt Ben solo langs de zuidkust van Engeland, Bretagne, de Kanaaleilanden, Noord-Spanje en langs Normandië en België weer terug. Dit twaalfde zeilboek van de auteur is weer een levendig reisverslag geworden en een schitterend vijfde deel in de serie ‘**Wereldzeilers Bibliotheek**’.

“**De Golf van Biskaje**” (ISBN 978-9059-610965) telt 112 pagina’s, en werd op handig formaat als softback uitgegeven. Het boek kost 10.90 euro. Aankopen kan via de boekhandel of rechtstreeks bij uitgeverij De Alk & Heijnen Watersport, Postbus 9006, 1800 GA Alkmaar. Tel. +32(0)72.5113965, [www.alk.nl](http://www.alk.nl). In België wordt het boek verdeeld door Agora Uitgeverscentrum, Aalst/Erembodegem. Tel. 053/76.72.26, Fax 053/78.26.91, E-mail: [info@agorabooks.com](mailto:info@agorabooks.com)

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**Inséré le 29/05/12 Historiek Historique – Enlevé le 29/06/12**

## **La préparation à la navigation en temps de guerre de 1930 à 1940 Ecole de Marine d'Ostende**

Par le Capitaine de Frégate (hre) Henri ANRYS

*Le Capitaine de Frégate(hre) Henri ANRYS, auteur des « Belges dans la Bataille de l'Atlantique » et de l'histoire de la section belge de la Royal Navy « Congé pour Mourir », a dépouillé les archives du Dépôt des Equipages (1917-1919), et du « Corps des Torpilleurs et Marins » (1919-1927) récupérées il y a peu à Londres où elles avaient été emmenées par les services anglais après leur découverte en Allemagne. Il en a publié la substance dans les Neptunus de juin 1984 et d'octobre 1984.*

*Dans ce numéro, M. ANRYS publie un aperçu de l'histoire de l'Ecole de Marine qui a succédé au Corps des Torpilleurs et Marins de 1930 à 1940 et qui a notamment utilisé deux de ses anciens torpilleurs.*

*Cet article est le résultat du dépouillement de kilogrammes de papiers des archives de l'Administration de la Marine de l'Etat.*

### **La reprise des torpilleurs du CTM**

Le 31 mars 1927, le Corps des Torpilleurs et Marins a été supprimé et mis en liquidation progressive pour disparaître totalement en 1930.

Le Directeur Général de la Marine, Monsieur de GERLACHE, envisage la création d'un organisme préparant l'organisation maritime de la Belgique en temps de guerre. Il constitue une commission

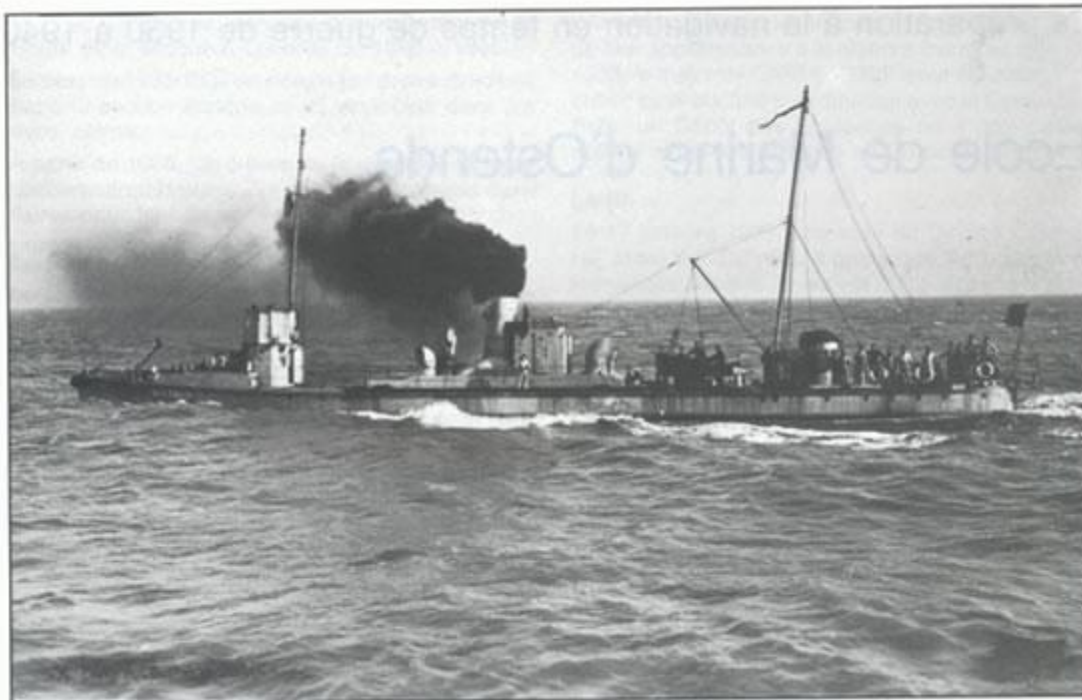
de 4 membres «chargée de l'étude de la formation des gens de mer à leur mission en temps de guerre». Son président est le Colonel CORNELLIE et le secrétaire le 1<sup>er</sup> Lieutenant COUTEAUX.

Le Colonel CORNELLIE fut le commandant des «Services Maritimes Militaires» en 1914-1918 et, en tant que tel, il commanda la Base Maritime de Calais et le Dépôt des Equipages qui se mua après la guerre en Corps des Torpilleurs et Marins. Le 1<sup>er</sup> Lieutenant COUTEAUX avait servi d'instructeur et de commandant de l'escadrille des vedettes au CTM à Bruges et était en disponibilité pour raison d'aptitude physique au service des malles (problèmes oculaires).

Le 20 juillet 1929, la Commission conclut à la création d'une Ecole de Marine, qu'elle propose d'établir à Nieuport mais qui le sera en réalité à Ostende et établit un budget de 568.000 francs basé notamment sur 40 sorties d'un grand torpilleur à 2.640 francs de mazout par sortie et 20 sorties d'un petit torpilleur à 520 francs de charbon par sortie. C'est ainsi que le schéma de base retient une flotille de deux anciens torpilleurs du CTM.

Le 19 octobre 1929, le Conseil des Ministres marque son accord pour créer une Ecole de Marine et pour la cession des torpilleurs du CTM à l'Administration de la Marine à charge d'en assumer les frais de gardiennage à partir du 1 janvier 1930 pour lesquels un budget de 340.000 francs est alloué.

Le 7 novembre 1929, le 1<sup>er</sup> Lieutenant COUTEAUX et l'ingénieur en chef VERVACK reçoivent l'ordre de se rendre à Bruges chez le Colonel FABRY et de reprendre les dix torpilleurs du CTM pour les ramener à Ostende. Une équipe de 3 matelots pont et 3 matelots machine en assurera la garde à Ostende le jour. Deux hommes du pont et un de la machine suffiront la nuit. Le premier noyau sera de neuf hommes.



▲ De Westdiep



Le 20 décembre 1929, le Directeur Général de GERLACHE décide de surseoir au passage du Lieutenant COUTEAUX devant la Commission des Pensions où l'appelait son indisponibilité pour faiblesse de vue, étant donné qu'un poste sédentaire pourra lui être attribué dans l'Ecole de Marine à créer.

Le 8 février 1930, le Ministre de la Défense, Monsieur de BROQUEVILLE met à la disposition de la Marine les torpilleurs et neuf sous-officiers qui les gardaient et étaient à cette fin maintenus en subsistance au 13<sup>e</sup> régiment d'artillerie de Bruges. En septembre, il sera donné le choix aux intéressés de passer à l'Ecole de Marine ou de raillier l'Armée, ce que 7 d'entre eux feront le 1 janvier 1931.

Le 24 février 1930, l'inventaire est terminé. Le Lieutenant COUTEAUX rend compte que le «A42» et le «A43» ou A24 du CTM, futur Wielingen et le «A9» sont en état de naviguer. Les Wielingen et West diep sortiront d'ailleurs les 7 et 9 septembre 1930 avec deux officiers des malles, huit matelots et cinq mécaniciens de l'Ecole de Marine et neuf sous-officiers du Corps des Torpilleurs et Marins prêtés par l'Armée.

## **L'Ecole de Marine est créée**

Dans l'entretemps, l'Ecole de Marine a été officiellement créée le 29 juin 1930 pour fonctionner le 1 janvier 1931.

Elle comprend trois Divisions dont deux, moyenne et inférieure, forment du personnel subalterne. La Division supérieure forme les officiers brevetés et sous-officiers au temps de guerre. Le programme portera surtout sur les armes : canons, torpilles, mines et la signalisation. Le Lieutenant COUTEAUX est nommé Commandant-Directeur et le cadre comprendra en outre sept officiers pont et machine et administratifs, treize quartiers maîtres et matelots et six professeurs. Pour les deux postes de lieutenants instructeurs, douze candidats dont sept capitaines au long cours se présenteront. Un sous-officier du CTM invalide de guerre, DAVID, est nommé professeur d'artillerie et de gymnastique. Il sera plus tard le commandant du Dépôt DEMS à Liverpool. Les élèves porteront un uniforme avec un insigne distinctif selon les divisions. La division inférieure accueillera les élèves de 14 ans pour un écolage de quatre ans tandis que l'accès à la division supérieure est réservé aux officiers ayant 18 ans au minimum.

En octobre 1930, les Wielingen en West diep sont en ordre et une adjudication pour un nouveau bâtiment qui coûtera 1.296.853 francs, est faite le 4 mai 1931.

## **L'Ecole de Marine et le garde pêche**

En 1931, l'Ecole prend sa vitesse de croisière. Le 12 mars 1931, le cutter à voile du pilotage «Stroom- bank» est mis à la disposition de l'Ecole.

Le 3 avril, le navire école «Princess Elisabeth» est aménagé pour l'Ecole.

Le 30 avril, le principe d'une priorité d'engagement à l'Etat pour les marins diplômés de l'Ecole est accepté.

Le 22 octobre, le nombre des admissions est fixé selon les besoins des vacances à combler.

Le 30 octobre, le garde pêche «Zinnia» est rattaché à l'Ecole de Marine. Celle-ci gère ainsi la police des pêches avec ses trois ex-navires de guerre.

En 1931, les torpilleurs font vingt sorties d'instruction et cinquante de garde pêche. Ils appareillent vers 9 heures et rentrent vers 17.30 heures.

Le 8 juin 1932, l'Ecole est chargée des commandes des uniformes pour les matelots. L'équipage de l'Ecole de Marine monte seulement à bord pour les sorties. A quai, les torpilleurs sont normalement gardés par six hommes.

## **Le garde pêche**

A part les torpilleurs, la surveillance des pêches était assurée par le «Zinnia». Le Zinnia était un ancien sloop de 1.200 tonnes de la classe construit en série par la Royal Navy durant la guerre 1914-1918 et acheté en 1920 sans son armement. Annoncé avec un équipage de septante sept hommes, il en eut plus régulièrement une cinquantaine d'hommes. Le bâtiment n'était pas armé au point qu'un navire français lui envoie un jour le message «Etes-vous vraiment un navire de guerre?» Le bâtiment était géré par l'Administration de la Marine et embarquait des passagers pour des missions occasionnelles : des Seascouts, un armateur étudiant un nouvel engin de pêche, le professeur d'histoire naturelle GILSON de l'UCL mais, par contre, refusa catégoriquement l'embarquement de l'avocat général DE RYCKERE en 1925. Celui-ci membre de la Commission de la Marine Militaire avait en effet proposé par économie que le navire soit armé par le Corps des Torpilleurs et Marins. Véritable crime aux yeux du Directeur Général PIERRART qui exprima son opposition sur un ton qui reflète le fossé existant entre la Marine de l'Etat et une marine militaire à cette époque.

Le Zinnia ne peut devenir un moyen d'excursion à bon marché et l'intéressé a embarqué avant guerre (NB de 1914) sur le «Ville d'Anvers». Son caractère difficile a été une source de difficultés pour les officiers de ce navire. En outre, la mission de la Commission est limitée à la défense du littoral belge et il n'y a que Monsieur DE RYCKERE pour vouloir créer un navire de guerre qui sortirait de nos eaux littorales...

Comme d'autres (Monsieur HENNEBICQ, etc...), Monsieur DE RYCKERE rêve d'une marine de guerre poursuivant le rattachement du Zinnia au Corps des Torpilleurs et Marins comme première étape de leur programme. C'est là leur but avoué que je me proposais de combattre à la Commission.

Le Zinnia était en effet resté tout à fait civil et soumis aux contrôles des Kristen Syndikaat van Staatsbedienden en Werklieden quant à la composition insuffisante de l'équipage ou des conflits avec les officiers. Lorsque le Zinnia ne navigue pas, son équipage, qui est interchangeable, passe aux paquebots et il reste quatre gardiens à quai. A partir de 1931, les deux pionniers de la RNSB, BILLET et JONCKHEERE y serviront avec le 1er Lieutenant TERMOTTE qui sera le recruteur des volontaires à la Régie de la Marine à Londres de 1940 à 1945.

La session 1933-1934 se clôture par douze diplômés dans la section supérieure et vingt-cinq dans les deux autres.

A partir de 1938, les élèves de la section inférieure sont embarqués sur le Zinnia comme matelots auxiliaires pour leur 3e année.

## Le rôle de la Marine

Le 15 février 1934, un Arrêté Royal crée le rôle de la Marine regroupant les diplômés de l'Ecole ainsi que les marins ayant une certaine expérience et qui en feraient la demande afin de créer une réserve qui avait manqué en 1914. Les enrôlés portent une couronne au bas de la manche et ont une priorité pour les emplois à l'Etat.

L'inscription est décidée par un Conseil du Rôle, composé de seize membres dont quatre matelots ou machinistes et un armateur.

En fait, ce Rôle ne jouera aucun rôle en 1940 et l'Armée mobilisera les inscrits sans se préoccuper de leur appartenance à la réserve maritime. Depuis 1938, le major de CARPENTRIE avait été chargé de créer, sans aucune coordination avec le Conseil du Rôle, un Dépôt des Equipages où il puisera les marins mobilisés destinés au Corps de Marine.

## La fin

Le 17 octobre 1939, une note du Directeur Général, Monsieur DEVOS, signale que les cours sont inchangés. Mais le Zinnia est retiré du service pour une période indéterminée. On sait qu'il tombera aux mains des Allemands comme les deux petits torpilleurs.

En 1942, COUTEAUX et le Lieutenant DEWESPELAER cesseront leurs fonctions, l'Ecole sera fermée en février 1944 puis ré ouverte à la libération sous la direction du Commandant COUTEAUX mais ne gardera plus que sa fonction de formation, la création d'une Force Navale ayant enlevé à l'Ecole de Marine sa mission militaire.

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**Inséré le 01/06/12 NEWS LOGBOEK – Enlevé le 01/07/12**

## Vande Lanotte favorable à des gardes armés sur les navires belges



Le vice-premier ministre Johan Vande Lanotte (sp.a), en charge de la Mobilité maritime, est favorable à l'engagement de milices privées armées à bord des navires belges afin de les protéger contre les actes de piraterie, indique jeudi De Tijd.

Mardi, au terme d'une concertation avec le secteur des armateurs, M. Vande Lanotte a promis de défendre auprès de ses collègues de gouvernement l'idée d'une sécurisation armée des bâtiments battant pavillon belge.

Actuellement, la législation belge interdit la présence d'armes à bord, mais de plus en plus de pays (Norvège, Danemark, Luxembourg, Espagne, Italie, Chypre, Malte) les acceptent pour endiguer l'augmentation des actes de piraterie.

"Nous constatons que les bateaux embarquant des gardes privés armés ne sont plus la cible des pirates", affirme Peter Vierstraete, président de l'Association belge des armateurs. "Les pirates savent parfaitement quels pavillons autorisent des armes à bord".

A l'argument sécuritaire s'ajoute un autre, commercial: les clients font désormais davantage confiance aux navires de pays autorisant une firme de sécurité armée à bord.

La piraterie maritime se concentre essentiellement dans l'Océan Indien, et plus particulièrement au large des côtes somaliennes. (belga)

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**Inséré le 03/06/12 OPEN FORUM – Enlevé le 03/07/12**

## **The bears have it**

**The second quarter of this year certainly proved that unfortunately, the tanker sector prophets of doom were correct in their forecasts of a falling market.**

Outlining what happened during the period to the end of 2Q09, Teekay, with a little help from the energy agencies and leading shipbroker Clarkson, said that average oil demand fell by 700,000 barrels per day to 83 mill barrels per day, which was down 3.5% (3 mill barrels per day) on the same period last year.

Global oil supply fell by 300,000 barrels per day in 2Q09, led by OPEC cutbacks and a decline in North Sea production on the back of the start of the summer oilfield maintenance season.

At its 28th May meeting, OPEC chose to leave current production levels unchanged, having previously agreed 4.2 mill barrels per day cuts since last September. However, in June, some members increased production spurred on by higher oil prices, but overall, OPEC's production declined by 500,000 barrels per day.

As for spot markets rates expressed in US dollars per day for VLCCs, this averaged only \$24,000 per day in 2Q09, the lowest level seen since in a second quarter since 2002. In the previous

quarter the average spot market rate was a more healthy \$49,000 per day.

Turning to Suezmaxes, this sector performed weak VLCC market, coupled with



LR2s and MRs rates fell away badly in 2Q09.

heavy refinery maintenance programmes in Asia led to a steep decline in Pacific Aframax earnings. In the Aframax LR2 sector, rates fell away to average \$9,000 from \$23,000 per day seen in 1Q09. This was due to a continuing weak product demand and an increase in the size of the fleet, despite the removal of some vessels for storage purposes.

Last, MRs also suffered a heavy fall from \$13,000 in the first quarter to just \$5,000 per day. Falling demand for refined products, high global fuel inventories and an influx of newbuildings were to blame.

Looking at the total tanker fleet, this had grown by 18.2 mill dwt (4.5%) since the beginning of the year, compared with 7.2 mill dwt (1.9%) growth in the first half of 2008. Newbuilding deliveries totalled 26.3 mill dwt in 2009, compared with 14.8 mill in the first half of 2008 and 36.3 mill dwt for the whole of last year.

Removals from the fleet during 2009 totalled 8.1 mill dwt, compared with 7.9 mill dwt during the same period last year. Ordering came almost to a standstill with just eight vessels of 300,000 dwt reported in 2009.

The dearth of orders plus the acceleration in the number of deliveries, helped shrink the orderbook by 29.4 mill dwt since the beginning of the year. At the end of June, it stood at 35% of the existing fleet, versus 43% at the beginning of January.

marginally better averaging \$25,000 as against \$43,000 per day in 2009. The removal of some VLCCs for storage in the Atlantic helped tighten vessel supply in West Africa.

Aframaxes fell to an average of \$14,000 from \$24,000 per day in the first quarter. This was partly due to a 200,000 barrels per day decline in US crude imports as oil inventories rose to a 19 year high and the start of the North Sea maintenance season.

## **What next?**

Teekay said the timing and strength of any economic recovery is the single largest variable in the tanker sector. Many agencies forecast an upturn next year. For example, the IMF said global GDP growth for 2010 would run at 2.5%, compared with a 1.3% contraction this year. In its latest Medium Oil Term market Report, the IEA forecast a 1.1 mill barrels per day growth in global oil demand next year, based on a global recovery and various government economic stimulus packages.

## **Canal transits**

Both the Panama and Suez Canals have come under scrutiny recently. US consultancy McQuilling Services has analysed the likely effect that expansion projects will have on the tanker sector.

As has been well documented, the Panama Canal is going through an ambitious expansion scheme, whereby vessels of up to 170,000 dwt will be able to transit by 2014. Owners thinking of using the canal, which dramatically reduces steaming distances, will have to take into consideration the transit tolls.

These are calculated on a scheme known as the Panama Canal Universal Measurement System net tonnage (PC/UMS) and following its expansion, the tolls are expected to rise by 3.5% per annum for the next 20 years.

An Aframax travelling at 14 knots would save around \$460,000 on a voyage from Puerto La Cruz to Los Angeles. A Suezmax on the same voyage would save \$617,000, in addition to the around 36 days reduction in the voyage time (see table).

McQuilling explained that although there is at least four years until the opening of the new locks, the consultancy derived the PC/UMS values for the tankers on the basis of a correlation of the PC/UMS to the gross tonnage of each type.

Already US east coast ports are ramping up their efforts to receive deeper draft vessels on the back of charterers' desire to take advantage of the economies of scale by using larger vessels. It might be assumed that the value of the Panamax will diminish from 2014 onwards and so will overall tonne/mile demand, as more and more vessels use the Canal, rather than the longer Cape Horn route.

The relative attractiveness of various crudes may change substantially for certain refiners, especially those located on the US west coast as larger tankers will be able to transit the Canal. McQuilling forecast that the opening of the Canal to larger vessels will forever change the face of marine transport.

As for the Suez Canal, the Suez Canal Authority is planning to deepen the draft of vessels transiting the Canal to 66 ft, from the current 62ft. Further expansion plans being discussed could see vessels of up to 72 ft go through, which would allow 99% of today's tankers to transit fully loaded.

<b>Round trip Puerto la Cruz/Los Angeles (\$000)</b>					
Type	Bunkers (Cape)	Bunkers (Canal)	Canal toll	Canal cost	Savings
<b>Aframax</b>	1,227	435	331	763	461
<b>Suezmax</b>	1,689	602	470	1,069	617

*\*Bunkers calculated at \$400 per tonne, at 14 knots and four port days included.*

This would reduce the attraction of using the Sumed pipeline, which allows fully loaded VLCCs to discharge at Ain Sukhna to the south of

Suez before transiting the Canal partloaded and topping up again at Sidi Kerir, located in the Mediterranean.

However, as freight rates remain depressed, today the high Canal dues make up a large percentage of the voyage costs. Furthermore, the piracy situation has to be taken into consideration, which has already adversely affected insurance premiums, as the potential for tonne/mile savings by using the Suez Canal may not be realised.

Thus far this year, the Canal has witnessed a 70% fall in VLCC transits from last year as owners and operators avoid the piracy hotspots and cut costs, such as higher insurance premiums. To access the Canal, tankers have to go through the Gulf of Aden and the narrow Bab El Mandeb where pirates are active. Tankers' slow speed and low freeboard tend to make them easy targets.

McQuilling looked at the case of a loaded coated Panamax (LR1) lifting 65,000 tonnes of clean product from Jamnagar to Rotterdam and compared the Suez Canal route with the trip via the Cape of Good Hope.

Canal costs were calculated using a net tonnage of 39,766 (a typical size LR1). Under normal Worldscales voyage terms and at a rate of WS100, the charterer's freight costs amounted to just under \$2 mill via Suez (a round trip Canal transit cost of \$425,161 was included). For the Cape route, the cost equated to \$2.55 mill, a saving of 28%. Furthermore, the Canal would save 9,356 miles, about 24 days steaming and about \$375,000 in bunker costs at \$390 per tonne.

However, the factors already mentioned considerably lessen the attractiveness of a Canal transit today versus the Cape route, despite the obvious savings, both in time and money.

TankerOperators



**Inséré le 05/06/12 NEWS – Enlevé le 05/07/12**

## **Navigational aids key in busy traffic – MAIB**

The importance of continuously monitoring shipboard navigational equipment, and taking due care when planning passage, has been highlighted by one of the latest incident investigation cases reported by the UK's Marine Accident Investigation Branch (MAIB).

In this case a container ship ran onto a reef when the navigating officer lost track of surrounding dangers, despite having recourse to radar and an ECS (electronic chart system) on the bridge. The following is the MAIB's description of the incident, as stated in the report.

"A 5500 teu container ship was on a coastal passage off southern China. The planned route intentionally avoided busy traffic separation schemes, with the master preferring a slightly longer passage which took the vessel further away from the coast and through a small group of islands."



*Lack of awareness of surrounding dangers led to significant hull damage for this container ship. Photo: MAIB*

"However, dense concentrations of fishing vessels, some very small, were likely to be encountered throughout the night."

"During the evening, the master calculated that he had some time in hand, so in order to save fuel decided to stop engines and drift for about an hour while in open water. Passage was then resumed at a speed of 21 knots."

"The master's night orders instructed the bridge watchkeeping officers to call him if they required his assistance."

"When the chief officer came on watch at 0400, he reviewed the charts to be used and noted the potential danger areas. Traffic density at that time was fairly light, but it gradually increased. The vessel was being steered by auto pilot and the chief officer was accompanied on the bridge by a lookout."

"By 0600 the number of small fishing vessels had increased substantially, causing the chief officer to make a number of course alterations in order to avoid a collision."

"The master visited the bridge briefly at around 0630, but with the chief officer apparently in control of the situation he soon went below for breakfast. The chief officer was kept busy avoiding small fishing vessels until shortly before 0700, when the numbers encountered started to reduce."

"By this time, the vessel was approaching the most navigationally constrained part of the passage, with submerged dangers lying 8 cables either side of the planned track. Her speed was still 21 knots and she was to the south of her intended route."

"The vessel's position had been plotted on only two occasions between 0600 and 0700, each based on a single radar range and distance."

"An ECS was fitted, but was only monitored occasionally. Just when the chief officer thought that he had negotiated most of the traffic in the immediate vicinity, a very small fishing vessel accelerated towards the container ship's star-board bow."

"Constrained by other vessels on the starboard side, the chief officer altered course to port towards a charted reef, which had been highlighted as a danger on the paper chart in use, but which the chief officer had forgotten about."

"About a minute later, at 0708, the container ship passed over the reef. This resulted in the breaching of five of her ballast tanks."

The conclusions of MAIB's investigation team from this incident reiterate the need to make use of the electronic navigational aids on the bridge to maintain situational awareness, especially when in busy traffic lanes.

The report notes, in conclusion: "There are occasions when traffic is so dense that an OOW has very little time to do anything but concentrate on collision avoidance."

"When constantly altering course to avoid other vessels in restricted waters, things can happen quickly, and it can be very difficult to accurately monitor a vessel's position unless radar parallel indexing and/or ECS/ECDIS are fully utilised."

"The occasional fix - with limited reliability - is far from sufficient."

"A basic ingredient of a safe passage is a plan which takes into account points on the route which might merit enhancements to the bridge organisation. It should also include other precautions such as a reduction in speed - due to factors such as the proximity of dangers, the likelihood of dense traffic or poor visibility."

"Passage planning requires thought, and involves far more than putting lines on charts."

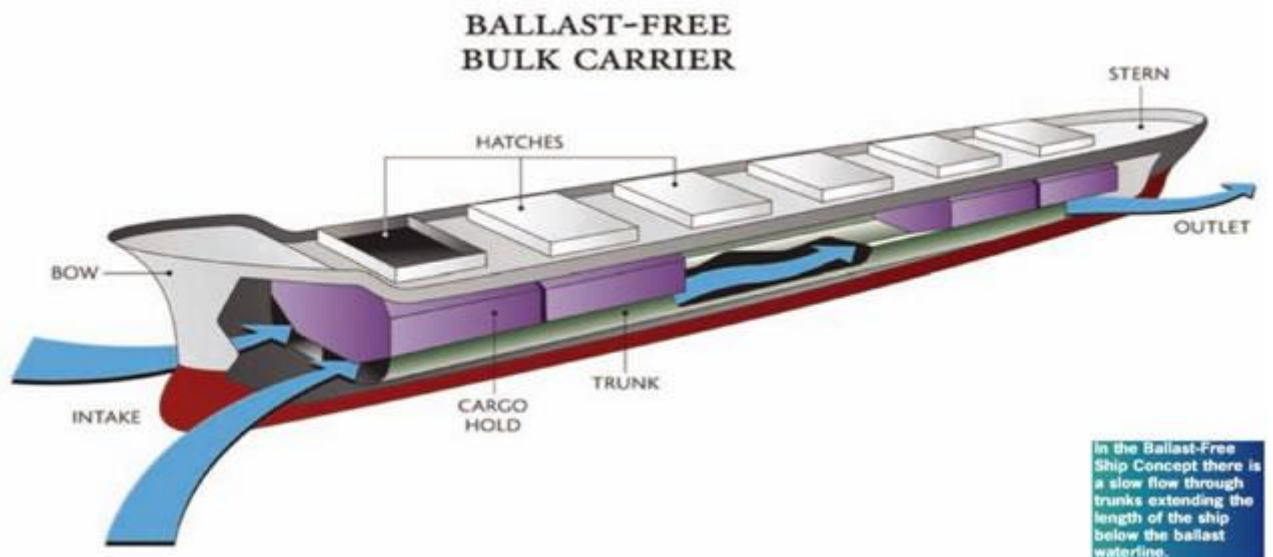
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Inséré le 07/06/12 OPEN FORUM – Enlevé le 07/07/12

## Ballast Free Ship: Will it Work?

### Recent Testing Indicates the Ballast-Free Ship Concept Can Also Provide Fuel Savings

Model-scale testing of a Seaway-size bulk carrier has shown recently that when optimally designed the Ballast-Free Ship concept can also yield a significant reduction in the propulsion power required in the ballast condition. The Ballast-Free Ship concept was invented at the University of Michigan in 2001 to provide a new way to address the problem of the introduction of Nonindigenous Aquatic Species (NIS) through ballast water transfer across the globe. Professor Michael Parsons and then Ph.D. student Miltiadis Kotinis developed the concept, with assistance from other department colleagues, and this initial work was reported at the Annual Meeting of the Society of Naval Architects and Marine Engineers (SNAME) in 2004.



In the Ballast-Free Ship concept the traditional ballast tanks are replaced by longitudinal trunks that run from bow to stern below the ballast waterline. Pairs of these trunks are flooded in the ballast condition and are left open to the sea. This can be viewed at reducing the buoyancy of the vessel rather than adding weight as occurs in traditional ballasting. There would be three trunks per side on a Seaway-size bulk carrier. The natural pressure distribution that develops around a hull at speed produces a positive relative pressure at the bow and a negative pressure at the stern. This pressure differential is used to drive a slow flow through the trunks so that they always contain "local water." The trunks and openings are sized so that the water in these trunks is swept out every hour or two to meet the environmental objective, but not increase the resistance of the ship significantly in the ballast condition. This prevents the ballast water transfer of NIS across the globe. In order to place sufficient volume in the ballast trunks to reach a safe storm ballast draft, the innerbottom must be raised and the hull must be made deeper to provide an equivalent bale capacity for the ship. Thus, the concept is really only practical for new construction. A Seaway-size bulk carrier would have its innerbottom at about 2.4 m above baseline and be 1 m greater in depth. The added steel weight and the buoyancy lost in the flooded inlet and outlet plena at the bow and stern, respectively, can be easily be offset by a slight increase in the fullness of the hull. This ensures that the operating draft is not increased. When the vessel completes the ballast voyage, the trunks are isolated using sluice gates or large disk valves and then pumped dry using conventional ballast pumps. The outboard two trunks on each side would also contain isolation

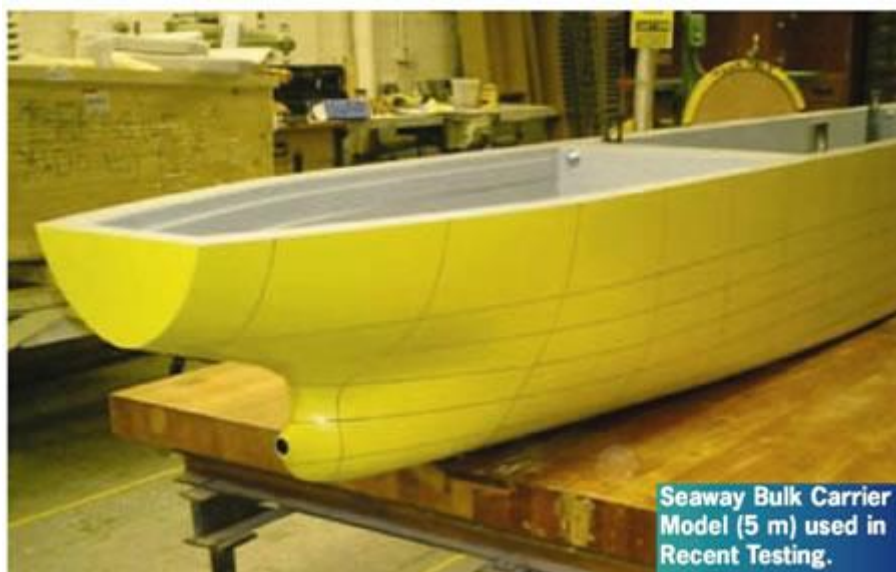
valves at each cargo hold bulkhead. These would be closed in the full load (trunk empty) condition to provide adequate protection in the case of grounding or collision.

The build-up of sediment in the trunks results in lost cargo capacity and IMO Regulations require that this be removed from ballast tanks to reduce the possibility of transporting benthic NIS within the sediment. With the higher innerbottom it will be easier for the crew or contractors to keep the ballast trunks free of sediment. To further facilitate this cleaning, the transverse web frames are cut away from the outer shell plating except for the narrow clip that is used to provide tipping stability for the bottom longitudinals (see accompanying midship section).

This removed material is not needed structurally since the aspect ratio of the bottom panels is long enough between webs that the stress condition is independent of the longitudinal span. This approach will further facilitate the cleaning and draining of the ballast trunks. It also saves steel weight and eliminates weld length to help offset the greater weight and work content needed by the deeper hull.

In the initial NOAA National Sea Grant sponsored work with the Ballast-Free Ship concept as reported in the 2004 SNAME Annual Meeting and Transactions, the concept was applied to an existing model in the University of Michigan Marine Hydrodynamics Laboratory, a 23 knot LASH vessel design. This was selected because of research budget limitations and unfortunately compromised the value of the initial proof-of-concept hydrodynamic testing. The stern of the hull was modified to be more conventional and resistance and propulsion tests were conducted with the Ballast-Free Ship concept installed. Because of the scaling differences between the internal flow (Reynolds scaling) and the external flow (Froude scaling), the trunks were not modeled in detail for this testing. Instead, the Froude-scaled amount of internal flow was pumped through tubing using a precision metering system and vane pump. The purpose of these tests was to establish the effect of the trunk flow on external resistance and propulsion of the hull. The internal flow was verified by Computational Fluid Dynamics (CFD) studies that established the pressure differential on the trunks and then applied this pressure differential to detailed models of the internal trunks.

The initial proof-of-concept resistance tests showed that opening the trunks to the sea would increase the resistance of the hull by about 2.2%. The trunk flow was crudely discharged normal to the hull, which greatly disrupted the boundary layer and wake entering the propeller disk. This significantly reduced the operating efficiency of the propeller. As a result the power required to propel the ship in the ballast condition was increased even higher to about 7.4% for a flow rate corresponding to a change of trunk water once every two hours. This disappointing result was used in the resulting economic study and while this was within the capacity of the existing engine, it resulted in a significant fuel penalty. The initial work concluded that "It is expected that further hydrodynamic optimization would eliminate most, if not all, of this added power penalty" (Transactions SNAME 2004).





In an effort to better address the ship power requirement with the Ballast-Free Ship concept, Professor Parsons and SUNY Maritime Assistant Professor Kotinis were able to secure three sequential years of funding from the Great Lakes Maritime Research Institute (GLMRI) beginning in 2005. GLMRI is a National Maritime Enhancement Institute administered as a partnership between

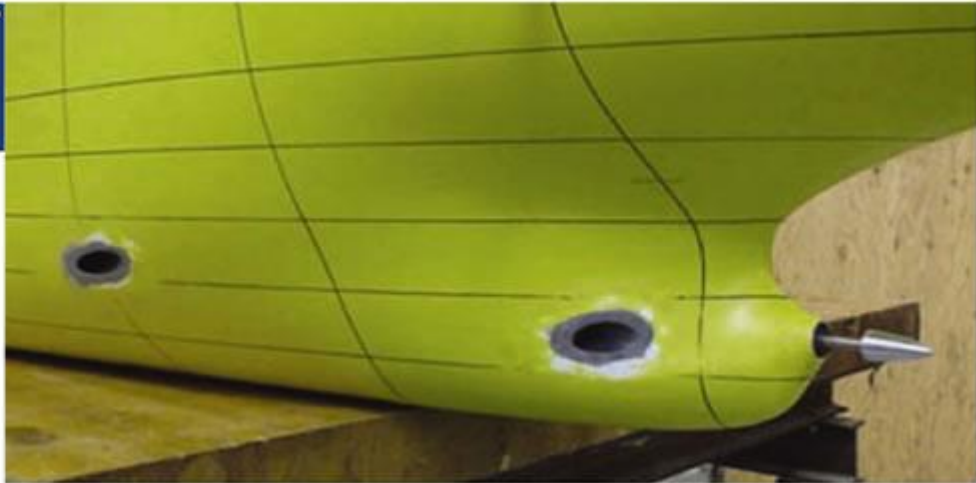
the University of Minnesota, Duluth and University of Wisconsin, Superior. It is sponsored by the U.S. Department of Transportation, Maritime Administration. With this support, a Seaway bulk carrier was designed based upon existing vessels that service the Great Lakes through the St. Lawrence Seaway. This is the type of vessel that represents the greatest threat to the Great Lakes for the introduction of additional NIS. This is not a Seaway max vessel, but represents a typical Salty that enters the Lakes (Table 1). A 5 m wooden model of this vessel was constructed during the first year of the effort.

During the second year of the effort, the model was used in a series of model tests in the University of Michigan Marine Hydrodynamics Laboratory.

The baseline hull was tested for resistance and propulsion in the unmodified state. The hull was then modified to include the Ballast-Free Ship concept inlet and outlet and the metered pump was installed to simulate the internal ballast trunk flow. To maximize the pressure input to the trunks, the 1 m full-scale circular inlet was placed in the tip of the bulbous bow at 25% of the design waterline. Two stern discharge ports were studied: one close to Station 17 at 45% of the design waterline, roughly corresponding to the location of the forward engine room bulkhead, and the other close to Station 19 at 30% of the design waterline, roughly corresponding to the location of the aft engine room bulkhead. These discharges were placed at about 10 degrees to the hull surface tangent to minimize the boundary layer disruption.

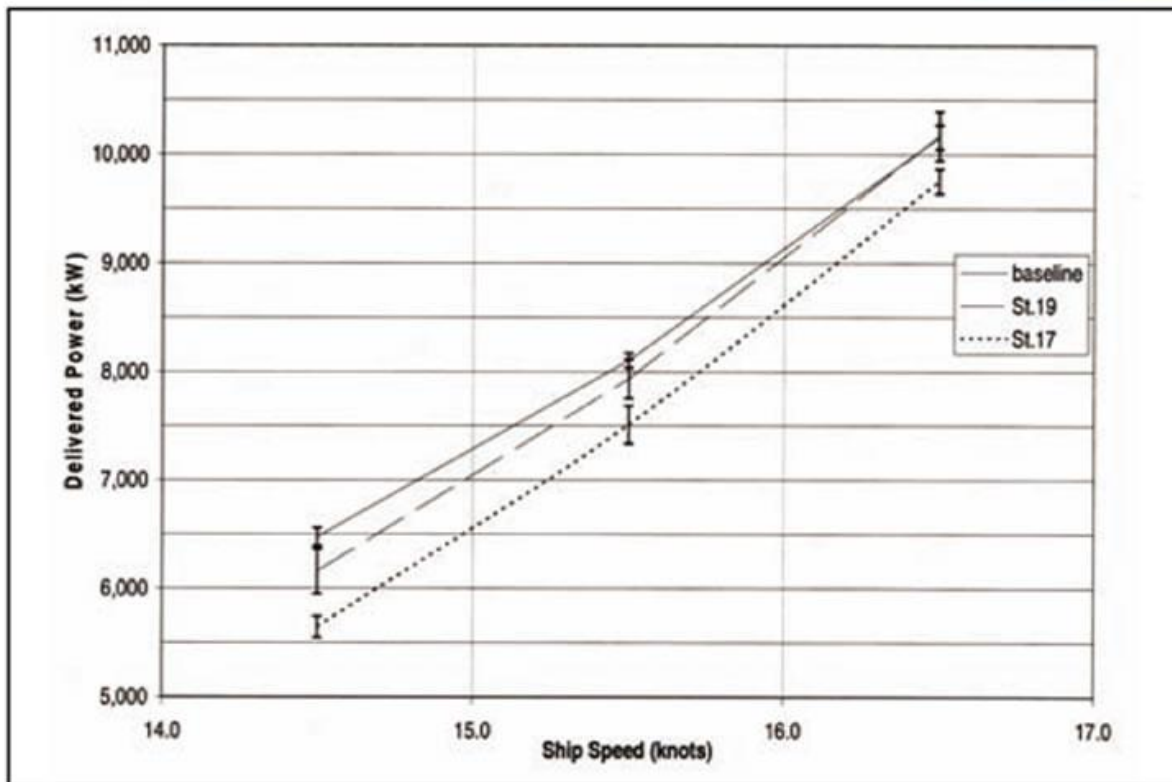


Placement of the Two Stern Discharge Locations near Stations 17 and 19



The propulsion power reduction found in the 2007 testing would result in significant fuel savings in the ballast condition. This is in addition to the benefits of eliminating the need for costly ballast water treatment equipment when ballast water exchange is eventually phased out by IMO regulations. An economic study of a vessel operating between Rotterdam and Duluth, arriving in ballast and then returning with grain, has shown that the use of the Ballast-Free

Required Delivered Power in the Ballast Condition with Different Discharge Locations.



Ship concept rather than filtration and UV treatment would result in a Required Freight Rate reduction of about \$2.55 per tonne of cargo (Transactions SNAME 2007). Thus, the Ballast-Free Ship concept could offer significant cost saving to owners compared to the installation of ballast water treatment equipment.

#### About the Authors

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**Inséré le 09/06/12 –News - Nouvelles – Enlevé le 09/07/12**

## **Vessel operators faced with the 'distillate premium'**

**At DNV Petroleum Services (DNVPS), we believe it is now widely accepted that SOx emissions from marine transport must be significantly reduced. The proposed ECA and global fuel sulphur limits now explicitly acknowledge this requirement.\***

In order to significantly reduce SOx emissions, there are only two alternatives: 1) Eliminate, or greatly reduce the sulphur content of fuel. 2) If high(er) sulphur fuels are consumed, remove the SOx from the engine exhaust gases.

This article looks at the second of these alternatives and more specifically the cost implications of such a change, which in fact is 'the distillate premium' (DP).



**DNVPS' Dr Rudolph Kassinger.**

Refiners and most other experts agree that if fuel sulphur is reduced to <0.5% as required in the proposed specification, sulphur limits would require the use of MGO quality fuel. Therefore, the cost to the ship operator would be directly related to the distillate premium (DP) which is the price delta between MGO and WO, which can be simply expressed as — MGO — IFO in \$/tonne = DP = 3.19 crude price (\$/bbl).

Product pricing may seem to be a black art, which indeed it is. There are no textbook formulas for determining IFO, MGO or any other petroleum product price. However, DNVPS has been a keen observer of the history of marine fuels and this extends to price, as well as its better known monitoring of fuel quality.

For at least 25 years, residual fuel (bunker C) price has been in the 65 — 75% of crude cost range, ie - this by-product fuel has sold at a significant discount to crude cost. Likewise MGO has been about 1.65 plus/minus 0.15

IFO price. These ratios are largely based on periodic evaluations made from time to time during DNVPS' almost 30 years' involvement in marine fuels.

Following are the assumptions behind the above simple equation:

1. IFO = 0.65 crude (units \$/tonne).
2. MGO = 1.65 (IFO) (units \$/tonne).
3. Crude \$/tonne = crude \$/bbl X 7.55 (based on 38 API for light sweet crude, 7.55 bbl/tonne).



Given these assumptions simple algebraic manipulation leads to the simple relationship  $-DP = 3.19 \times \$/Bbl$  light sweet crude.

We have chosen this approach, ie, linking DP to crude cost, because we felt the crude price was a more familiar and potentially more available figure.

\$/Bbl	MGO factor			
	1.65	1.80	2.00	IFO 380
Crude*	1.65	1.80	2.00	IFO 380
70	224	275	343	344
100	319	393	491	491
150	479	589	736	736

\* Light sweet crude, 38 API, 7.55 Bbl/MeT.

The table below examines three crude price scenarios (\$70, \$100, \$150/bbl) and three MGO premium cases (MGO factor = 1.65, 1.80 and 2 times IFO price). We believe that distillate fuel, which has been the fastest growing grade and is in the most precarious supply/demand balance will exceed historical ratios, hence the higher MGO factors.

As a further insight into the DP, the table below considers the high IFO 380 price scenario, - 0.75 times crude cost - with the same MGO factors as above: Based on these estimates the distillate premium is likely to be in the 525 +/- 300 \$/tonne range. Even under the most optimistic scenario the DP will be at least \$225/tonne.

\$/Bbl	MGO factor			
	1.65	1.80	2.00	IFO 380
Crude*	1.65	1.80	2.00	IFO 380
70	258	318	397	397
100	368	454	567	567
150	553	680	850	850

\* Light sweet crude, 38 API, 7.55 Bbl/MeT.

We believe it will be substantially higher, up to \$850/tonne, if crude increases to its historical high of 2008, a not entirely far-fetched possibility and MGO is 2.0 IFO price, and IFO is 0.75 crude.

The bottom line in these estimates is that the economic incentive for a scrubber solution to SOx emissions will be enormous. This incentive has not been lost on all those avidly researching scrubber solutions and the several operators that are conducting chipboard trials.

DNVPS continues to follow these developments with keen interest, especially the actions taken insofar as an adoption of scrubber technology by VLCC and large container ship operators. These types of vessels are among the largest fuel consumers and would likely see the greatest incentive to adopt a scrubber solution and therefore the ones leading the charge to installing scrubbers.

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**Inséré le 11/06/12 -Historiek Historique – Enlevé le 11/07/12**

## **Le corps des torpilleurs et marins: L'oeuvre d'un homme**

**Par le Capitaine de Frégate(s) Rés. H. ANRYS - du Comité d'Histoire de la Marine Militaire**

Le Dépôt des Equipages, créé en 1917 sous l'empire des nécessités pour fournir la Marine Marchande en équipages et en canonnières, fut l'œuvre d'un homme, le Colonel Cornellie.

Celui-ci a étendu progressivement son rôle en détachant des équipes sur des torpilleurs et des drageurs de mines français, en vue de la création d'une marine belge.

En 1918, il met en service trois torpilleurs allemands récupérés à Anvers.

Le 28 juin 1919, il va d'office aux Pays-Bas à Hellevoetsluis, récupérer onze autres torpilleurs Allemands et vingt-six petits bateaux allemands qui s'y sont réfugiés. Il les colle sur les bras du Gouvernement, puis est démobilisé. Le Détachement des Torpilleurs, confié en 1918 au Major Munaut sera alors commandé à partir du 5 août 1920 par un artilleur, le Lieutenant Colonel Vandeputte mais le Détachement sera surtout le fruit des efforts inlassables de l'Attaché Naval français, le Capitaine de Frégate Weverbergh. Officier belge détaché à l'Ecole Navale Française en 1900, par Leopold II, il était resté dans la Marine française, devant l'échec des tentatives du Roi pour créer une flotte. Il va tenter après la première guerre, de réaliser son rêve de jeunesse, une Marine de guerre belge, pour de servir son pays d'adoption en faisant de la côte belge le prolongement de la zone d'armée navale du Nord. Quand Weverbergh sera rappelé en France en 1923, au moment où le DTM devient le Corps des torpilleurs et marins et prend tournure, le corps. à son apogée, est près de sa fin.

Simultanément on constate que, dès la fin de la guerre, le cadre marin du Dépôt des Equipages a été remplacé progressivement par un cadre d'officiers détachés de l'armée. Presque tous partent avec Cornellie. Quatre sous-officiers du Dépôt, anciens marins marchands ou cadets du voilier école engagés en 1914, seront alors nommés officiers en 1920 (renforcés par trois officiers de la Marine de l'État dont le Commandant Couteaux). Ce seront les seuls en bleu et à porter des appellations de grade marine. Ils sont classés officiers de réserve en 1921 et progressivement mis en congé sans solde. L'éloignement du corps de ses origines marines pour s'intégrer de plus en plus dans l'armée de terre, sera un élément non négligeable de ses difficultés.

### **La Flottille du Rhin**

En 1918, le DTM tente péniblement de s'organiser à Anvers.

C'est à ce moment, pendant qu'il se débat dans des difficultés sans nombre qu'il est appelé à fournir du personnel pour la flottille du Rhin de l'armée d'occupation.

Vue V4, V8 et V1 du C.T.M. Flottille au Rhin; 1924.



Dès le 19 novembre 1918, le Commandement allié a créé un organe de contrôle du Rhin : la Commission Internationale de Navigation de Campagne (CINC).

Le 11 juin 1919, une Compagnie de Navigation de Campagne (CNC) regroupe le personnel belge de cette CINC dirigée par le Lieutenant Colonel DUMONT. Quelques bâtiments allemands réquisitionnés sont renforcés à partir de juin 1919 par les deux anciennes canonnières belges d'Anvers

«Argus» et « Police de la Rade III », internées en Hollande en 1914 et à partir de décembre par huit des vedettes ex- allemandes du Détachement des Torpilleurs et Marins.

En mars 1920, la flottille belge compte dix-sept bâtiments belges dont cinq seulement en état de service, avec cent trente-huit hommes, plus six remorqueurs et neuf barges allemandes avec leur personnel allemand réquisitionné. Deux flottilles divisionnaires sont à la disposition des deux divisions de l'Armée, composées chacune de deux ou trois remorqueurs et 1 vedette, armés par du personnel allemand également. Le Lieutenant Colonel DUMONT demande à pouvoir remplacer ce personnel par des marins belges.

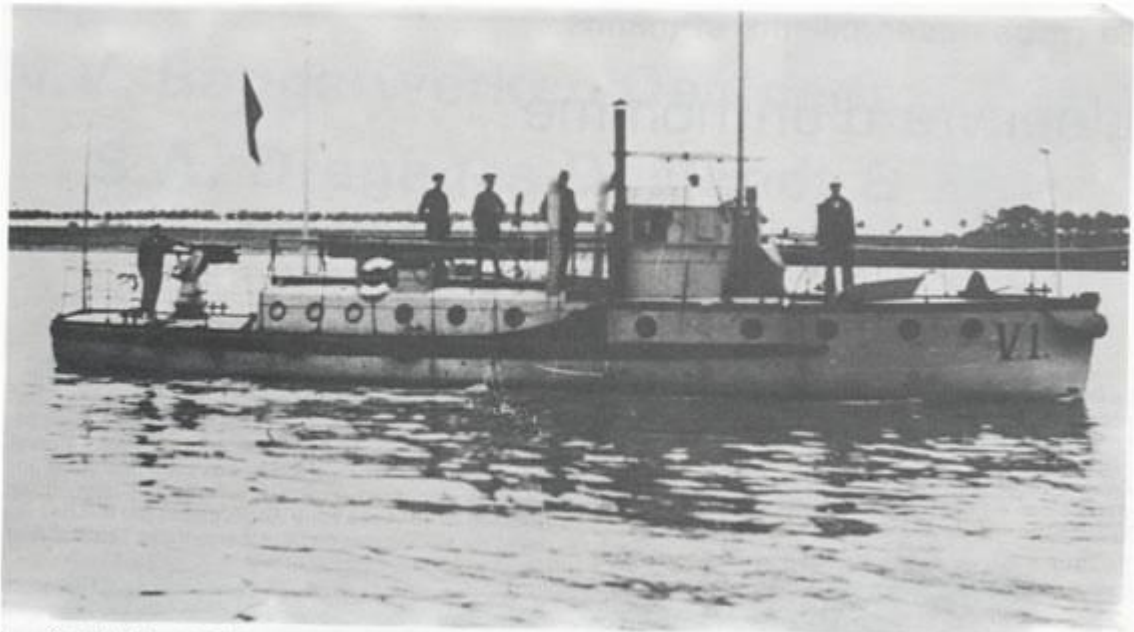
Le 15 mai 1920, la flottille CINC passe au DTM mais reste contrôlée par la CNC d'Homberg qui adresse à Anvers les demandes en personnel et matériel. Les remorqueurs allemands sont alors libérés et remplacés par cinq remorqueurs des transports par eaux intérieures (TEI) de l'Armée. Le 3 juin, les deux flottilles divisionnaires sont à leur tour cédées au DTM. Le Lieutenant Colonel Dumont demande cent vingt marins pont et machines, des canons de 37 mm, et des projecteurs. La quatrième section de l'EMA (Etat Major de l'Armée) réclame le passage de la flottille du Rhin aux TEI mais le chef d'Etat-major constate que sa mission n'est pas de transport mais de contrôle, de garde et de combat pour accompagner les forces terrestres. La flottille doit en fait surveiller 176 kilomètres de Rhin divisés en deux sous-secteurs Nord et Sud et cela en collaboration avec une vingtaine de postes de surveillance.



▲ Vedettes belges V6 et V1 sur le Rhin. (Photo Musée de l'Armée, Ref. DE-(b)10.133.)

15 mars 1922, la flottille compte un officier et deux cents hommes détachés du DTM (dont 17 à l'atelier) et cent soixante et un hommes de l'Armée détachés du CINC. Elle dispose de dix-sept vedettes, neuf remorqueurs et un grand bateau à passagers réquisitionné l'« Undine », les canonnières ayant été vendues à la douane belge. Ces unités sont réparties en flottilles divisionnaires Nord et Sud (deux remorqueurs chacune) et flottille CINC.

Ce n'est qu'à cette période que la flottille est constituée en unité responsable envers le DTM, à la disposition opérationnelle du CINC. Devant les difficultés de personnel, la flottille est réorganisée par la DMEMH n° Mar/52/21/3 du 22 juillet 1922 qui en réduit l'effectif à cent cinquante hommes (dont quarante recrues à instruire) et dix bateaux soit sept vedettes à deux moteurs V1, 2, 3, 4, 5, 6 et V8 qui doivent arriver d'Anvers, deux vedettes à un moteur (n°s 7 et 9) et l'« Undine », bateau-école. Les autres unités sont renvoyées à Anvers.



Vedette V1 sur le Rhin.

La base de la flottille sera Essenberg sous les ordres du Commandant de flottille, le capitaine MARGRAFF qui succède au Lieutenant DUCHENE. Les flottilles divisionnaires sont supprimées en tant que formation permanente, les unités étant envoyées à Heerdt pour les exercices de soutien à la 8 DI et à Homberg à la disposition du 2 DI. Elles ne devront être reconstituées qu'en cas d'alerte avec quarante embarcations à réquisitionner et cent vingt marins envoyés d'Anvers par le DTM en même temps que quarante-cinq techniciens destinés au service des ponts de bateaux.



Le 17 novembre 1922, le Commandant du DTM profite de la démobilisation de la classe 1920 pour faire ramener les bâtiments en excédant à Anvers, après qu'on ait débarqué en magasin sept canons et septante et une mitrailleuses. Avec cet équipement, les vedettes à deux moteurs seront équipées chacune d'un canon de 37 mm et de deux mitrailleuses sauf les V7 et V9 qui n'ont qu'une seule mitrailleuse lourde et l'« Undine » qui reçoit deux canons de trente-sept et quatre mitrailleuses. Ces unités disposent de trois cent dix-neuf coups par pièce et cinq mille neuf cent trente-cinq coups par mitrailleuse.

C'est dans cet état que la flottille prendra part aux opérations d'occupation de la Ruhr déclenchées par les armées belge et française le 11 janvier 1923 en représailles pour le non paiement des dommages de guerre, progressant le long du Rhein-Harn Canal. La flottille sera supprimée lors de la fin de l'occupation.

### **Dans la nasse d'Anvers**

Le Détachement des Torpilleurs et Marins s'est concentré tout naturellement à Anvers où avaient été amenés les bâtiments allemands repris en Hollande. Son problème majeur sera de sortir de la nasse où elle était ainsi enfermée par le Traité de 1839.

Il ne pourra se développer qu'une fois sorti de là et regroupé à Bruges.

Le 1er septembre 1919, un Arrêté Royal crée le Détachement des Torpilleurs et Marins.

Le 7 novembre 1919, le major Crabbe, Commandant de la Compagnie des Torpilleurs du génie de l'Armée expose les difficultés que rencontre le Détachement à s'installer à Anvers. La première et deuxième compagnies sont dans les baraquements en décomposition à la troisième darse. Le Fort Sainte Marie lui est attribué mais les atterrages et amarrages en sont dangereux, ce pourquoi le major demande l'affectation au DTM d'une grande caserne et du Fort de Cruybeke pour y regrouper toute la flottille à l'abri des vents d'ouest.

Le 19 novembre 1919, le Ministre de la Guerre annexe à la Compagnie des Torpilleurs du Génie, le Détachement des Torpilleurs et Marins. Le personnel du Dépôt des Équipages constituera l'ensemble de la nouvelle unité.



Le 24 décembre 1919, une troisième section « Marine- Défense de la Côte» est créée à l'Etat Major de l'Armée (EMA). Dès ce moment et cela en accord avec le Ministre de la Guerre, le déplacement du Détachement à Zeebruges et l'élaboration d'un statut sont considérés comme les premières mesures à prendre en même temps que l'envoi de stagiaires en France. Le Commandant d'artillerie Decarpentrie, le Capitaine CHOME et le Lieutenant Vandeveldde seront embarqués pour un an sur le croiseur école «Jeanne d'Arc », le Lieutenant Pirnay et neuf hommes partent en 1920 pour onze mois dans la flotte sous-marine à Toulon ; l'EMA songe en effet alors encore à reprendre deux sous-marins allemands qui se révéleront en définitive hors d'usage.

En 1920, le Détachement compte neuf torpilleurs de cent cinquante tonnes, les A 5, 8, 9, 11, 16 et 20 désarmés et en mauvais état, cinq torpilleurs de deux cent cinquante tonnes, soit les A 42, en très mauvais état, 43 et 29 et deux en service, les A 40 et A 47, vingt-six vedettes, mouilleurs de mines et remorqueurs dont onze sur le Rhin en Allemagne et deux, dont la V 48 à Ostende en mars 1920. Les unités sont dans un état lamentable, les bouchons de cylindre, les magnetos, les transmissions et même les tuyauteries ont disparu, volés. Seuls dix seraient aptes à appareiller. Selon un rapport du Général Maglinse le 19 février 1921 «Tout ce qui était mobile et enlevable a disparu des bâtiments flottants dépourvus d'un équipage régulier. Si l'on peut dire que ce pillage est actuellement arrêté, c'est grâce à une surveillance très absorbante... Les gardes et contrôles nombreux constituent une entrave sérieuse pour le bon rendement de l'instruction du personnel »



Plage arrière d'un torpilleur de 250 tonnes du CTM. ▲  
(Photo Musée de l'Armée.)

Uniformes du Corps des Torpilleurs et Marins.



Les effectifs s'élèvent à mille deux cent quarante-sept hommes en décembre 1920. Il y a vingt-cinq officiers dont vingt détachés de l'Armée et sept cents engagés à long terme. Deux cents hommes sont sur le Rhin.

Les hommes sont répartis entre la première Compagnie de Dépôt et de Matériel, une Compagnie de Formation des Recrues et une Compagnie de Personnel apte à naviguer sur les torpilleurs.

Le premier des ces détachements est dans des baraques pourries de la Darse III où sont amarrés les navires non commissionnés.

Les deux autres Compagnies tournent en ronds jusqu'à ce qu'on leur trouve une caserne. Ce sera une vieille usine désaffectée à Burght. Selon le rapport mensuel de décembre 1920, neuf cent septante-sept hommes doivent encore être en service ; vingt-quatre sont devant le Conseil de Guerre, quarante-cinq sont déserteurs, vingt-trois malades. Le rapport est optimiste dans sa sécheresse.

« Les vivres sont de bonne qualité. Les hommes sont très satisfaits du ménage » qui fournit trois repas variés dont deux avec viande et pommes de terre. « Les baraquements sont satisfaisants.

L'habillement (qui reprend pratiquement les uniformes français avec pompon bleu) est en bon état. » Sur le terrain, l'année 1920 est cependant difficile. Les baraques de la Darse III se déginglissent et seront définitivement inhabitables en mars 1921, sauf trois ateliers et magasins. Les cinq torpilleurs en état de marche sont au Steen mais on les en chasse constamment pour libérer un quai et ils doivent chercher à s'amarrer où la ville veut bien. Les navires désarmés sont perdus parmi les cargos au chômage à la Darse III. On y vole constamment. Des marins militaires s'en vont travailler à la journée dans le civil dès l'appel terminé.

Le 1 mars 1920, le Général Maglinse, chef d'Etat Major, a donné son accord pour le transfert au Fort de Cruybeke, mais le Ministre de la Guerre y est opposé parce que ce fort sert de dépôt à cinq cents tonnes d'explosifs. Le Ministre achète alors l'usine de linoleum désaffectée de BURGHT et le transfert est décidé pour le 6 septembre 1920. La première Compagnie s'y installe le 2 novembre 1920. Le Commandant du DTM demandera aussitôt de pouvoir construire deux baraques type lazaret dans la cour bourbeuse vu le manque de locaux pour trois compagnies, afin de loger les sous-officiers et les salles de cours. L'usine entourée d'un simple fil de fer demande à son tour des gardes nombreuses. Les anciens ateliers aux plafonds élevés (dix-sept mètres) rendent les chambres inchauffables. Les dépôts qui doivent quitter les baraques en ruine de la Darse III s'installeront à leur tour au Fort de Steen en février 1921. On ne peut y loger que deux cents hommes. Trente autres devront se caser au Pavillon d'entrée. Les navires bloqués par la frontière hollandaise que le Gouvernement leur interdit de dépasser pour éviter les incidents avec les Pays-Bas, s'entraînent sur quelques kilomètres de fleuve, ce qui les limite à quelques exercices, avec l'aviation à Tamise, ou de défense fluviale.

## **Le programme de développement**

L'attaché naval français, le Capitaine de Corvette (puis capitaine de Frégate) Weverbergh apporte tout l'appui possible à la force.

Il se préoccupe de l'encadrement. Le 15.1.1921, il lance un appel à l'aide à Paris : « Les cadres de gradés ne présentent pas actuellement les qualités indispensables pour assurer une direction sérieuse des équipages et une navigation sûre. L'instruction technique des équipages est totalement à faire... Pour manœuvrer, il faut appeler un détachement attaché à la base de transit... Il n'y a pas de règlements propres et l'Administration d'un groupe naval sur les mêmes bases qu'un régiment de l'Armée ne peut donner que des catastrophes ». Weverbergh fait, en attendant, officieusement aider le Détachement par les équipages de deux chasseurs de sous-marins français qu'il maintient à Anvers comme façade de leur assistance militaire mais qui n'appareillent plus.

En décembre 1920, le Général Arnould, Inspecteur Général de l'Artillerie et le Colonel Vandeputte rencontrent à Paris l'Amiral français Salaun, Chef d'Etat-Major. Sans diplomatie, l'Amiral leur parle de la défense côtière belge comme d'un sous-secteur de ZAN français et les deux officiers belges en sont refroidis, mais le Ministre de la Guerre, Monsieur Deveze, malgré les décisions d'économie et le prix à payer de deux mille francs d'indemnités mensuelles pour chaque officier et mille francs pour les autres, décide de maintenir la demande d'un renfort de la mission navale française le 17 février 1921.

Le 1 septembre 1921, la Belgique renouvelle sa demande d'aide d'une mission française. WEVERBERGH, deux officiers et deux sous-officiers sont alors désignés officiellement.

C'est le 10 mai 1922 que trois officiers, onze officiers marinières et neuf quartiers-maîtres seront enfin mis à la disposition de la Belgique. La réalisation du programme Weverbergh peut s'accélérer.

Le 9 février 1921, Weverbergh, officiellement attaché à la Ille section « Défense de la Côte » de l'EMA, rue Léonard de Vinci à Bruxelles a exposé au Général MAGLINSE (Chef d'EMA), au Colonel Van De Putte et au Colonel Henin de l'EMA son plan de développement du DTM 1921-1934.

Le programme A.1921-1925 serait consacré à la remise en état du matériel, l'abandon d'Anvers et l'installation à Bruges, l'entraînement à la mer, la formation d'un statut du personnel, l'achat d'un navire-école, la création d'une flottille de dix chalutiers dragueurs, d'une artillerie de côte et d'une base aéronavale.

Le programme B.1926-1929 verrait l'acquisition de monitors, contre-torpilleurs et croiseurs.

Les programmes C et D de 1929 à 1934 complèteront la flotte par douze hydravions, trois mouilleurs de mines et quatre cent cinquante mines de barrage.

Les effectifs passeraient de mille quatre cent quarante-cinq hommes en 1921 à neuf mille sept en 1934 et d'un budget de trente- quatre millions en 1922 (au lieu de deux millions six cent cinquante-cinq mille en 1921) à quarante-huit millions en 1934.

Le Commandant WEVERBERGH développait longuement la nécessité de faire de Bruges la principale base navale belge autour des abris bétonnés dans lesquels les Allemands avaient investi quatre cents millions de Marks, avec cent cinquante mètres de quai à Zeebruges. Ainsi sont posées les conditions préalables de la survie de la flotte.

Bruges devient base principale

La Compagnie des Installations Maritimes de Bruges s'oppose de toutes ses forces à ce transfert. Le 20 décembre 1922, elle cédera finalement quand même la Darse I pour cinq ans moyennant un loyer annuel de dix mille francs. Le DTM convient par contrat du 27 décembre 1922 de faire draguer la passe et de faire enlever quarante mille mètres cubes de sable (coût cent nonante deux mille francs) pour faire entrer un croiseur de 7,80 de tirant d'eau. WEVERBERGH a en effet mené rondement l'application du programme A.

Il a demandé le 25 avril 1921 le prêt d'un croiseur français.

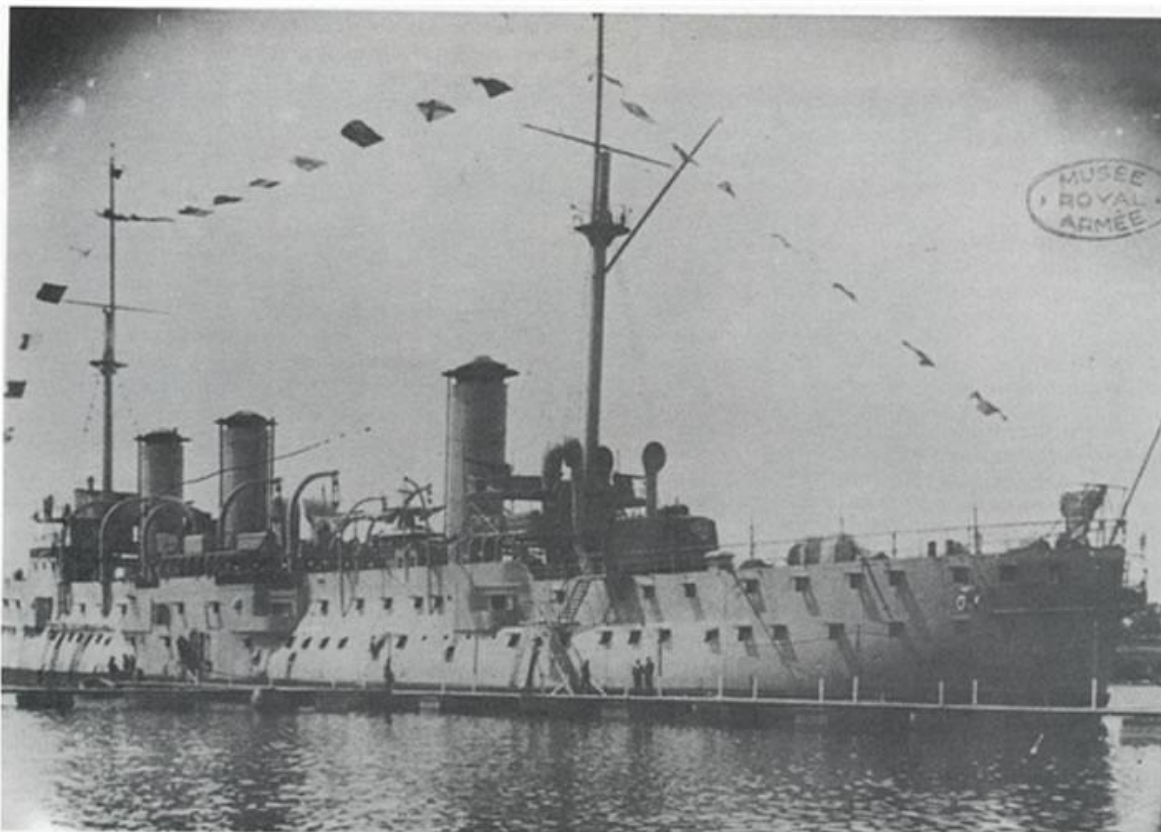
Le 27 mai 1921, la Marine française a offert de prêter le croiseur «D'Entrecasteaux», qui a été accepté le 25 octobre 1922. Aussitôt sa remise en état commence. Il y en a pour six mois. Le bâtiment est prêté gratuitement et la France enlève l'artillerie et les hélices, repeint, refait l'installation électrique. L'Etat belge paie l'aménagement d'une chaudière auxiliaire (cent quarante mille francs), achète septante plats pour six hommes chacun (de trois mille francs), huit cents hamacs (cinquante-deux mille francs), cinquante cirés à dix-huit francs, cinquante vareuses à vingt-cinq francs, etc... Dès que la passe sera aménagée, le croiseur pourra être amené.

Le 24 mai 1923, le Colonel RENAUX qui a repris le commandement du DTM en 1922, et le Commandant WEVERBERGH appareillent de Brest à la traîne de deux remorqueurs français avec le croiseur que le Commandant DECARPENTRIE et soixante hommes ont pris en main depuis avril.

Le 28 mai, le croiseur mouille dans la Darse I à Bruges et le 30 il est transféré sous pavillon belge.

Trois jours après, commence l'organisation de la rade. Coup sur coup, WEVERBERGH rédige une série d'instructions sur le service, impose l'amélioration des tenues, la suppression des tenues bigarrées et sales, l'obligation de se laver tous les jours.

Le 15 juin 1923, le Colonel RENAUX édicte l'ordre n° 1 sur le service à bord. Les autres suivent à





cadence rapide.

Le 5 juillet, les deux Compagnies de formation qui étaient à Beverloo depuis qu'on avait constaté l'inadéquation de la caserne de Burght en février 1922 arrivent par train. L'EMA s'occupe alors de faire rallier le reste du DTM encore à la Darse III d'Anvers, dont le Capitaine de port exige la libération.

## Les flottilles d'Anvers rallient Bruges

Dès que le prêt «D'Entrecasteaux» a été demandé, à partir du 10 juin 1921, la diplomatie belge s'est efforcée d'obtenir l'aménagement du Traité du 19 avril 1839 qui empêche les navires de guerre belges de remonter l'Escaut d'Anvers vers la Mer. En fin 1922, l'échec des négociations à Lucerne est patent et l'EMA s'efforce d'étudier le transfert des navires bloqués à Anvers par les canaux. Il établit avec les chemins de fer un programme de rehaussement ou levée des ponts.

Le 27 septembre 1923, le torpilleur A.5 teste le passage.

Le 22 octobre 1923, les torpilleurs de deux cent cinquante tonnes A.29, 40, 42, et 47 quittent Anvers en deux traînes remorqués respectivement par les remorqueurs «Ostende» et «Belgique» du DTM, précédés d'un marin cycliste qui règle les levées des ponts entre Gand et Steenbrugge.

Le 31 octobre 1923, le Colonel RENAUX télégraphie à l'EMA : «deuxième escadrille bien arrivée port de Bruges ».

Le 22 novembre 1923, il reste vingt-trois unités à Anvers, les torpilleurs A.1, A.3, A.11 et V.8 à Cruybeke, les A.2, A.9 et le «Torpille» amarrés au Duc d'Albe, les «Ostende », V.B., V.12, V.4 à Sainte Anne, les A.43, A.28, A.8 « Marcella », « Hainaut », « Belgique », «Wilma », V.14, V.11, V.7, V.51 et V.25 à la Darse III sous la responsabilité du Commandant Chomé et du Lieutenant Gerard.

Le 23 janvier 1924, l'EM du CTM (le DTM est devenu Corps des torpilleurs et marins CTM, le 19 octobre 1923) quitte le 16 rue Belliard à Anvers et s'installe sur le croiseur.

Désormais la vie sur la rade de Bruges comme l'entraînement seront strictement inspirés de la vie sur une rade française.

Les bâtiments les plus dégradés sont abandonnés. Le Commandant du « D'Entrecasteau », le Commandant DE CARPENTRIE fait fonction de commandant supérieur de rade et les deux officiers de garde du croiseur, (un belge doublé d'un français), donnent les ordres aux torpilleurs pour le service général.

La flottille des torpilleurs est divisée en deux escadrilles, le commandant de flottille, commandant également la deuxième escadrille.

La première escadrille est composée de cinq petits torpilleurs de cent cinquante tonnes. Elle est mouillée à poste d'amarrage sur les bouées blanches de la ligne des Corps Morts Ouest. La deuxième, constituée des cinq grands torpilleurs dont un à effectif normal est amarrée à la ligne des bouées rouges Est. Chaque



escadrille compte un torpilleur à effectif normal (deux officiers et vingt-huit hommes sur les deux cent cinquante tonnes, deux officiers et vingt six hommes sur les cent cinquante tonnes), les quatre autres unités étant en disponibilité armée (un maître et seize hommes). L'EMG de flottille compte deux officiers de pont et deux officiers mécaniciens. Les effectifs totaux embarqués sur les torpilleurs sont ainsi de cent quatre-vingt-neuf hommes plus deux infirmiers. Le croiseur fournit l'eau. Le personnel des deux escadrilles fournit les gardes de l'enceinte extérieure. Chaque torpilleur est commandé par un premier maître. C'est plus la vie de garnison avec de nombreux exercices sur rade que la vie d'escadre.



↓ Ecole d'embarcation en rade de Bruges.



↓ Hommes sur la plage arrière du d'ENTRECASTEAUX - Corvée épluchage des pommes de terre.  
(Photo Musée de l'Armée.)

Les inspections se succèdent tout au long de la semaine : le linge le lundi, le matériel le mardi, les sacs le jeudi, le personnel le samedi. Le soir, les permissionnaires sont amenés à bord du croiseur soit par un youyou soit par un canot et partent à terre après inspection sur le croiseur. De leur côté les vedettes sont constituées en trois sections de trois et une vedette hors rang, la seule en service en temps de paix. Sur les trois remorqueurs, un seul est à effectif normal. Les effectifs complets du corps s'élèvent à neuf cent deux hommes.

Le 12 mars 1924, le A.42, sous le commandement du Lieutenant français MADELIN, fait sa première sortie Bruges-Ostende.

Les tenues se complètent de cirés, de bottes, le 7 décembre 1924, pour remplacer le paletot peu adéquat par gros temps. Les hommes travaillent en tenue de toile grise.

L'EMA commande le 11 décembre 1924 quinze torpilles en France pour rééquiper les torpilleurs.

## La crise des effectifs

Depuis le 12 juillet 1920, les marins embarqués ont touché une indemnité journalière variant de dix francs (sous-officier Commandant de torpilleur) à trois francs cinquante pour les matelots. L'extension à tout le personnel a été bloquée le 1 octobre 1923. Mais en 1923, le problème des effectifs se fait sentir, le service du croiseur absorbant à lui seul trois cent quinze hommes au minimum. Le 12 octobre 1923, le Colonel RENAUX se plaint de ne plus disposer que de trente-huit quartiers-maîtres et matelots volontaires et nonante-trois miliciens. Il reçoit deux cent cinquante miliciens en 1920, trois cents en 1921, trois cent soixante en 1922, cinq cent quatre en 1923 et cinq cent huit en 1924. Le 8 avril 1924, il ne va recevoir que cent quatre-vingt-deux hommes dont quarante à envoyer aussitôt sur le Rhin. Il se plaint d'avoir trop de cultivateurs, trop d'employés et cela pour trop peu de temps. Sur un an, il ne peut constituer ses équipages. Il y a deux levées par an. Il se plaint à l'EMA le 12.10.1923: «Sur les deux demi-contingents, l'un frotte et nettoie pendant trois mois tandis que l'autre s'instruit ». Il faudrait deux ans de service. Les deux compagnies de formation comptent chacune cent dix hommes (première compagnie pont, deuxième compagnie machines).

Les unités ne peuvent guère fonctionner que comme caserne de la garnison de Bruges faute de personnel instruit. Au moment d'une démobilisation comme le 21 novembre 1923, il reste sur le croiseur dix quartiers-maîtres, cent deux matelots et neuf clairons alors qu'il faut déjà cinq factionnaires pour une garde de quinze hommes et septante et un hommes pour la moindre manoeuvre. Il reste trois quartiers- maîtres et quatre matelots par torpilleur !

Le 29 novembre, la flottille d'Anvers démobilise cent trente hommes ; on lui en envoie dix-sept pour les remplacer... Le même jour, le capitaine de frégate GUIBERT établit pour le Colonel RENAUX le décompte du minimum de personnel embarqué nécessaire.

Ajouton qu'il y a une majorité de Flamands. Sur la levée de 1923, il y a cent dix-huit Anversois, septante-huit Ostendais pour vingt Carolorégiens.

## **La veillée**

Les torpilleurs font de courtes missions côtières. Le 15 août 1924, un torpilleur est envoyé à Calais. Le Lieutenant de Vaisseau FAY propose des modifications de tenues «en fonction de l'expérience acquise ces derniers mois pendant lesquels des bâtiments ont pris la mer (1 août 1924) L'utilité d'une deuxième coiffe, d'un deuxième jersey est évoquée.

La consommation est établie sur base d'une activité de douze heures par jour pour des 4/5 torpilleurs le 12 juin 1926 (combustibles trois cents kilos de charbon heure ou neuf cent vingt kilos de mazout).

Sur la rade de Bruges, la vie continue en 1924, 1925 et 1926 inspirée des instructions envoyées par Weverbergh au Lieutenant Fay, Chef de la mission française sur le croiseur. Le 3 juin 1923, Le Lieutenant Colonel Fabry devient chef de corps au début de 1924.

L'escadrille des vedettes est commandée par un officier de marine de l'Etat, prêté au CTM, le Commandant Couteaux, officier chargé en outre de la remise en état des unités. Entré à la Marine de l'Etat en 1923, officier sur le transport de troupes Leopold II en 1914 puis sur le «Rapide» dans l'escadre française de la Méditerranée en 1916 et enfin à l'Etat-Major de l'Amiral KEYES, le Commandant Couteaux est qualifié dans son dossier personnel de «marin très intelligent, très instruit, d'une éducation soignée, d'un dévouement absolu ».

Le Major Fabry, commandant en second, succède au Colonel Renaux en 1924. Le Commandant Chome commande l'escadrille des torpilleurs de deux cent cinquante tonnes et le Lieutenant Van De Velde celle des cent cinquante tonnes, le Capitaine Margraff la flottille du Rhin. Les deux premiers sont des artilleurs ayant fait un an de stage sur le croiseur français «Jeanne d'Arc ». Le troisième est un Capitaine du troisième Carabiniers cyclistes qui sera tué durant la deuxième guerre. Le Corps est maintenant bien organisé. Mais le CPF Weverbergh a été rappelé en France le 16 septembre 1923, sa mission accomplie. Son successeur, le CPF Guibert va continuer sa tâche de tuteur du CTM mais il va bientôt se heurter à une réorientation de la politique militaire belge. Le Général Maglinse était un fervent défenseur du CTM. Il s'intéressait au moindre détail du CTM, intervenait pour toutes ses demandes, fût-ce de brosses à dent. Son successeur, le Général Galet veut mobiliser toutes les ressources et tous les effectifs pour la nouvelle ligne de fortifications. En 1926, il reste deux escadrilles de quatre torpilleurs et une des trois vedettes. Le CTM ne coûte toujours qu'à peine trois millions et demi par an. Il est quand même supprimé par A.R. du 9 juillet 1926 pour prendre effet le 31 mars 1927. La Compagnie des Installations Maritimes de Bruges dénonce le bail de la Darse I en octobre 1927 pour s'achever le 31 décembre 1928.

La mission militaire française est renvoyée en France presque en catastrophe, vite, vite car elle coûte à l'Etat belge vingt deux mille francs par mois de soldes et seize mille fr d'allocations. Par conséquent, on renvoie le croiseur «D'Entrecasteaux» à Cherbourg dès le 21 janvier 1927. Le mois suivant la Belgique cesse de payer les marins français qui l'ont ramené.

Les officiers du CTM rejoignent leurs régiments.

Le 30 novembre 1927, le Colonel Intendant ALARDIN relève que le DTM comprend encore vingt sous-officiers, sept quartiers-maîtres et dix-huit matelots. Il ne veut pas créer des dépenses pour réparer leurs effets et propose de les habiller en kaki mais l'EMGA refuse : il reste suffisamment de stocks. Les derniers marins chargés de la liquidation resteront en bleu.

*Neptunus octobre 1984*

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**Inséré le 13/06/12 –Logboek - News – Enlevé le 13/07/12**

## **Legal battle in the air hangs over ships**

The direction of a legal battle over the European Union's regulation of airlines' greenhouse-gas emissions (GHGs), which has great implications for the maritime industry, maybe revealed as soon as next month. The European Court of Justice is expected to deliver its initial findings in a case brought by US airlines against the UK Government and European Commission over the inclusion of international airlines in the EU Emissions Trading Scheme (EU ETS) as soon as late September.

The international maritime industry has a lot at stake in this case. Brussels is also formulating a proposal to regulate GHGs from all shipping in the EU in much the same way. The chances of it successfully doing so will be heavily influenced by the outcome of the aviation case in Europe's highest court. An initial ruling from the ECJ could come in September or October, although there are expectations the full course of legal action could carry over into next year, which takes beyond the date the regulation comes into force. From January 1, Brussels will bring airlines into the EU ETS and require the surrender of emissions permits for every tonne of CO2 emitted during operation on all internal and international flights to and from EU airports. Airlines, their trade associations and government transport officials in the US, China, India, Russia and the Asia-Pacific have railed against the move. Their key argument is that applying EU law to foreign airlines violates international law governing aviation, and violates the very sovereignty of other nations. European airline associations are also putting the squeeze on Brussels, fearful that the intense lobbying by foreign governments and airlines will see the Commission bow to pressure and exempt foreign carriers, disadvantaging EU carriers. This appears unlikely, however, with provisions for exemption only available to those countries with similar emissions caps in place to the EU's ETS.

In the face of at times furious attack, the European Commission appears to be sticking to its guns. It has consistently argued that it wants to see the aviation and maritime sectors in Europe subject to the same emissions controls as land-based emitters. Emissions from these sectors are expected to grow enormously worldwide over coming decades without controls. The Commission has long said it would look to implement market-based measures (likely emissions trading, or possibly a bunker levy) on international shipping to reduce emissions if no global agreement to do so emerges from the IMO or UNFCCC. The IMO has agreed the mandatory application of new energy efficiency design and operational standards for vessels, EEDI and SEEMP, but these measures do not cap or reduce emissions overall, only slowing their growth over the next 20 years. Because of this, Brussels' position previously has been that EEDI and SEEMP would not be enough to stop it proceeding with its own regulation of shipping. It is currently expected to reveal a proposal in the second quarter of 2012 and aim for implementation around 2014. However, if the US airlines case were successful, this would force the European Commission to reconsider similar action in shipping. An International Civil Aviation Organisation agreement earlier this year to reduce airline emissions growth also left it open for the EU to go ahead with inclusion of the sector in its ETS. **Source: Carbon Positive**

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**Inséré le 15/06/12 –Logboek - News – Enlevé le 15/07/12**

## **Bulker deliveries weighing in on freight rates keeping sentiment on a negative mode**

A flurry of new buildings still hitting the water has caught up for good with the freight market, with capesizes unable to weather the storm. With rates now closing in to \$10,000/day for a capesize, it's just a matter of time before some owners at least begin considering even the option of layoffs, as the market's downturn is such that it could simulate the conditions prevailing during the financial crisis of the final months of 2008. Of course, global dry bulk trade is far from the state it

was back then, demand for goods is solid and the global economy is in a large part recovering, although at a slower than expected pace. Still, capesize rates have kept on falling, ending yesterday down by 3.86 percent, according to the Baltic Exchange. This meant that the market for capesizes has fallen by more than 25% since Christmas Eve. "Although the Atlantic held up for a while, by the end of the month it had attracted ships from the Pacific, ensuring rates softened in both markets" said shipbroker BRS (Barry Rogliano Salles) in its weekly report. As a whole the BDI fell by 1% yesterday to reach 1,480 points a new low in more than two years. The only bright spot seems to be the Panamax market, which has continued to find support and widening its gap in terms of daily earnings from its larger counterpart, the capesize segment.

According to N. Cotzias Shipping Group, "the negative trend that was there during week 51 of 2010 continued well into 2011 and the overcapacity issue that we had repeatedly warned the markets from late 2009 is here to cause more headaches during 2011. We expect the indexes to further reduce their values at least in the larger size segments and any possible recover will be temporary and short lived. What is worth stating is that as long as the developed world markets don't get seriously into a post -recession stage, and keep operating at idling speeds then the rest of the world and the shipping markets can't rely solely on China to keep producing the steam for all the world. The load on China's back is too heavy and unless there is another China... invented in 2011 we feel that the scales that measures the rise in demand for seaborne goods vs the rise in supply of new dry cargo ships will heavily tip over one side... and we all know which side of the scales is already heavily imbalanced!" said the company in its latest report.

As far as overcapacity goes, Cotzias notes that there is a total of more than 3,500 dry bulk carriers on order pending until 2014 of a total of 250mil tons dwt. "These orders are split chronologically as follows: 1854 ships are due for 2011 making up a total of 128mil dwt, 1106 ships due in 2012 of 87mil dwt and 360 ships of 30mil dwt due for 2013-2014. In total there is a massive orderbook only on the Bulkera section and we should not understate the fact that 2011 faces us with more than 55% of the total orderbook scheduled for delivery and that we should also include in this 114 orders of 4mil dwt that are "carried forward" from 2010. The outlook looks worst for Supramax size segment where the total fleet adds up to 69mil dwt tons and has more than 36mil tons to come in the next 2 years included the ships that are "brought forward" as outstanding orders from 2010 (58% possible increase in the next 2 years). The second worst size segments are the VLOC's and the Post Panamax sectors that have nearly as much capacity coming within the next 2 year period as the fleet sums up today (we observe a near 100% increase over the next 2 years). The Handymax size segment is looking much better as the orders here are minimal and have also a very largely over-aged fleet with more than 70% being 20 year + in age and the new building orders not exceeding 4mil tons of extra carrying capacity. The Capesize size segment is also largely on threat as the present fleet amounts to 183 tons presently with more than 69mil tons on order until 2012. This will lead to a 38% increase in the fleet that will be shocked by the addition of 25mil more in the larger Very Large Ore Carriers that will act not as a domino effect but more like the Cliffhangers that when one falls over... the weight and pressure is put on the others still hanging solidly on the cliffs to support the rest" said the shipbroker. **Source : Nikos Roussanoglou, Hellenic Shipping News**

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**Inséré le 17/06/12 – OPEN FORUM – Enlevé le 17/07/12**

## **Piracy - the biggest threat to shipping in the 21st century**

**Are we now on a war footing? Some shipping people say that the time has come to fight fire with fire as the threat of piracy escalates.**

Opinions are divided on just how far the shipping industry needs to go to protect their assets and the lives of their crew. Some say put armed guards on the vessels, while others urge the industry to take a more cautious view.

The IMO's stance is that it is up to the individual flag states to decide whether the hiring of professional armed guards is the appropriate form of deterrent. There are many security firms offering all manor of advice and even hardware to protect vessels and the industry associations have produced what they call the 'industry best management practice'.

Recent events in the Indian Ocean, Gulf of Aden and off the Horn of Africa has made everybody sit up and take notice of the dangers lurking in the area. And it is not only this area that is affected. West Africa has always been a hot spot for political activity aimed at the oil majors and others and this continues unabated.

The pirates themselves are becoming more sophisticated in their day-to-day operations with the use of 'mother ships' the latest threat.

The use of 'mother ships' gives the pirate gangs a greater range in which to operate. As a result, they have ventured ever closer to the Indian sub-continent and to the southern area of the Indian Ocean.

One disadvantage of using 'mother ships' is that they should be easier to trace than small skiffs, or small fishing vessels, given the number of coalition warships and attendant aircraft operating in the area. However, like the allies found with the Atlantic Ocean in World War II, it is a huge area to patrol.

The IMO recently launched an action plan to promote the 2011 World Maritime Day theme: "Piracy: orchestrating the response". At the launch, UN Secretary-General Ban Ki-moon said that the piracy situation was "completely unacceptable and requires an urgent and co-ordinated response."

Speaking at IMO's London headquarters, the secretary general welcomed the decision of IMO to pay special attention to piracy during the year ahead. "This is a timely and important initiative," he said.



**'This is a timely and important initiative'  
- Ban Ki-moon.**

IMO has been combating maritime piracy for some time and a series of measures, developed with the co-operation of the littoral States and the support of the industry, helped significantly reduce piracy in the hot spots of the late 1990s and the early 2000s: the South China Sea and the Straits of Malacca and Singapore.

IMO secretary general Efthimos Mitropoulos said; "Piracy and kidnapping have blighted the maritime community for too long and it is seafarers who bear the brunt." He added, "We believe that we can use the experience gained and the successes achieved in reducing piracy elsewhere to good effect in the current arena as well, but to do so requires a well orchestrated response."

The two secretary generals were joined at the launch by Ms Josette Sheeran, executive director of the World Food Programme (WFP); Yury Fedotov, executive director of the United Nations Office on Drugs and Crime (UNODC); Robert Lorenz-Meyer, president of BIMCO, representing the shipping industry; and David Cockroft, general secretary of the International Transport Workers'

Federation (ITF), representing seafarers.

All echoed their support for this latest IMO initiative. Fedotov said, "It is clear that the only viable long-term solution to the Somali piracy problem is to restore law and order in Somalia, including in its waters. It is also clear that this solution is some years off and will require concerted and co-ordinated international effort. UNODC's counter-piracy programme focuses on supporting regional prosecutions and on rebuilding Somalia's criminal justice capacity."

Ms Sheeran focussed on the humanitarian aspect of the problem. Acknowledging the success of naval escorts in protecting food aid for Somalia, she also highlighted new challenges created by the worsening situation. "The presence of Somali pirates in an ever expanding area is of great concern because they threaten not just food bound for directly for Somalia, but our food transiting through the ports of Mombasa (Kenya), Dar es Salam (Tanzania) and Beira (Mozambique) for vital operations in Zimbabwe, the Democratic Republic of Congo and other places with great humanitarian needs."

Speakers at the launch of IMO's action plan also pointed out the economic cost of piracy. Ban said, "ransom payments adding up to hundreds of millions of dollars have created a 'pirate economy' in some areas of Somalia that make them more resistant to efforts to develop alternative livelihoods. Economies throughout East Africa and beyond are experiencing the fallout."

Representing the shipping industry, Lorenz-Meyer said, "The attacks are not only attacks on ships, but also attacks on the global supply chain in one of the world's most vital sea lanes. They threaten a supply line of vital interests to the international community." Cockcroft said many crew members were at breaking point because of the stress of passing through the area frequented by pirates. "If the risks cannot be eliminated, then seafarers will demand not to sail into the area at all and responsible shipowners will support them," he said.

Mitropoulos said IMO's action plan aimed to make some genuine inroads into what, to date, has been an escalating problem.

"In the past 12 months alone", he said, "there have been 286 piracy-related incidents off the coast of Somalia. They have resulted in 67 hijacked ships, with 1,130 seafarers on board – while, at present, 714 seafarers are being held for ransom on board 30 ships scattered at various points of the country's extensive coastline."

## **Six point plan**

IMO's action plan for 2011 has six prime objectives:

- Increase pressure at the political level to secure the release of all hostages being held by pirates.
- Review and improve the IMO guidelines to administrations and seafarers and promote compliance with industry best management practice and the recommended preventive, evasive and defensive measures ships should follow.
- Promote greater levels of support from, and co-ordination with, navies.
- Promote anti-piracy co-ordination and cooperation procedures between and among states, regions, organisations and industry.
- Assist states to build capacity in piracy-infested regions of the world, and elsewhere, to deter, interdict and bring to justice those who commit acts of piracy and armed robbery against ships.
- Provide care for those attacked, or hijacked by pirates and for their families. Among other things, during 2011, IMO will focus on promoting further co-operation between and among states, regions and organisations in reducing the risk of attacks on ships through a variety of mechanisms, including information-sharing; co-ordination of military and civil efforts; and development and implementation of regional initiatives, such as the IMO-led Djibouti Code of Conduct.

The IMO said that its action plan would build on efforts to tackle the problem that have been underway for some time. For example, through the Djibouti Code of Conduct, information-sharing centres are being established in Yemen, Kenya and Tanzania, as well as a regional training centre in Djibouti. In partnership with the UNODC, IMO is helping to develop the legal framework necessary to prosecute pirates.

Ban took the opportunity to emphasize where the real source of the piracy problem lies. "Although piracy manifests itself at sea," he said "the roots of the problem are to be found ashore. This is a

complex issue. But in essence, piracy is a criminal offence that is driven by economic hardship, and that flourishes in the absence of effective law enforcement.

"The only truly successful way to address the problem in the long term," said Ban, "is through a strategy that focuses on deterrence, security, the rule of law and development. Our common goal must be a sustainable solution."

In conclusion, Mitropoulos said: "This year, we are resolved to redouble our efforts and, in so doing, generate a broader, global response to modern-day piracy. More needs to be done if the ultimate goal of consigning piracy to the realms of history is to be achieved. We hope that our choice of theme for 2011 will provide an appropriate rallying point around which all those who can make a difference can focus their efforts."

Following the 3rd February launch, it has been widely reported that several large tankers, including VLCCs, have been targeted, with the result that at least two have been hijacked. This problem will not go away until the whole world sits up and takes notice.

TankerOperator

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**Inséré le 19/06/12 – OPEN FORUM – Enlevé le 19/07/12**

## **The economic cost of piracy**

At the end of 2010, around 500 seafarers from more than 18 countries are being held hostage by pirates. Piracy clearly affects the world's largest trade transport industry, but how much is it costing the world\*?

Oceans Beyond Piracy has completed a study on the economic cost of maritime piracy. The project set out to analyse the cost of piracy to three regions: (1) the Horn of Africa; (2) Nigeria and the Gulf of Guinea; (3) the Malacca Straits.

The focus has inevitably been on the costs of Somali piracy as this is the region where contemporary piracy is most highly concentrated and is the greatest source of current data and information. The project primarily analyses direct costs, but also considers some secondary (indirect) costs. The project is designed to be a collaborative effort, and Oceans Beyond Piracy said that it would welcome any data sources, comments, or other suggestions that interested stakeholders might have.

### **Ransoms**

Over the past five years, ransoms paid to Somali pirates have increased from an average of \$150,000 in 2005 to \$5.4 mill in 2010. The largest known ransom payment was for the South Korean VLCC, Samho Dream. This vessel was ransomed for a record \$9.5 mill in November 2010. By the end of 2010, approximately \$238 mill was paid in ransoms to Somali pirates in that year alone.

Shippers purchase four main types of insurance as indemnity against piracy - war risk, kidnap and ransom (K&R), cargo and hull. The most significant increase in premiums has been in 'war risk' and K&R. The Gulf of Aden was classified as a 'war risk area' by Lloyds Market Association (LMA) Joint War Committee in May 2008, and is therefore subject to these specific insurance premiums.

The 'Cost of Piracy' model calculates the additional cost of insurance to the shipping industry by using a lower bound estimate (10% of ships purchasing these insurance premiums) and an upper bound estimate (70% of ships). From these calculations, it is estimated that total excess costs of insurance due to Somali piracy are between \$460 mill and \$3.2 bill per year.

### **Navy forces**



Cost factor	Cost
Ransoms; (excess costs)	\$148 million
Insurance Premiums	\$460 million to \$3.2 billion
Re-Routing Ships	\$2.4 to 3 billion
Security Equipment	\$363 million to \$2.5 billion
Naval Forces	\$2 billion
Prosecutions	\$31 million
Anit-Piracy Organizations	19.5 million
Cost to Regional Economies	\$1.25 billion
<b>Total Estimated Cost</b>	<b>\$7 to \$12 billion per year</b>

By the publisher's calculations, around \$2 bill is spent each year on naval operations off the coast of Somalia. The cost of naval presence comes in two forms: 1) The cost of each contributing naval vessel. These costs are calculated using approximations of the cost of deploying a ship per steaming day, and multiplying this number by the number of vessels deployed each year - currently around 43.

2) The administrative and staffing budgets of the 'big three' naval operations - Operation Atalanta, Operation Ocean Shield, and Combined Task Force 151.2.

## Prosecuting piracy

Organization	Funds
Contact Group on Piracy of the Coast of Somalia	\$3.7 million
IMO Djibouti Code	\$13.8 million
Regional Cooperation Agreement on Combating Piracy and Armed Robbery against Ships in Asia (ReCAAP)	\$2 million
UN Office of Drugs and Crime (UNODC)	\$5 million
<b>Total Cost of Counter-Piracy Organizations</b>	<b>\$24.5 million</b>

Over 750 Somali piracy suspects have either been tried for piracy, or await trial in more than 11 countries. To calculate the cost of piracy prosecutions, the number of prosecutions held in three regions was taken into account: Africa and the Indian Ocean, Europe, and North America. This number was then multiplied by an approximation of the average cost of prosecutions for piracy or similar crimes in each region. The project estimates that the cost of piracy trials and imprisonment in 2010

to be around \$31 mill.

A number of intergovernmental organisations are dedicated to working towards a solution for maritime piracy. These funds represent operating costs as well as established trust funds. The total budget of these organisations is around \$24.5 mill.

## Re-routing ships

For some vessels, especially 'low and slow' moving ships, which are at the greatest risk of piracy attack, avoiding risk zones altogether may be a safer or cheaper option. Total excess costs of re-routing to those ships is estimated to be between \$2.4 to \$3 bill per year.

Shipowners may attempt to protect their property and crew from piracy attacks by preparing their ships with security equipment and/or guards prior to transiting a high-risk zone. The total cost of this equipment is between \$363 mill and \$2.5 bill per year.

Country	Main Cost Factor	Loss Per Year
Egypt	Loss of revenue from Suez Canal fees (as ships re-route away from the Gulf of Aden)	\$642 million
Kenya	Trade Impact	\$414 million
Yemen	Trade Impact	\$150 million
Nigeria	Losses to oil and fishing industry	\$42 million
Seychelles	Losses to fishing and tourism industries	\$6 million
<b>Total Macroeconomic Costs</b>		<b>\$1.25 billion</b>

## Total costs

From the above calculations, the 'Cost of Piracy' project estimated the total cost of piracy in 2010 to be between \$7 bill and \$12 bill. This figure is not a definitive result, but an approximation. It

should also be noted that like all economic assessments, these estimates reflect the current economic environment. It is worth remembering that as the international economy rebounds from the present economic recession, these numbers could be expected to change substantially.

UN Secretary General, Ban Ki-moon stated in November 2010: "Piracy... has had an immense impact on the economies of East Africa and also the wider world..."

International trade routes are threatened and goods in the region as well as Somalia are becoming more expensive." The table above shows just some of the costs different countries suffer, as a result of piracy.

Note that determining the macroeconomic impact of piracy is especially challenging because it is difficult to assess which costs result directly from piracy, and which costs are associated with general political or financial instability.



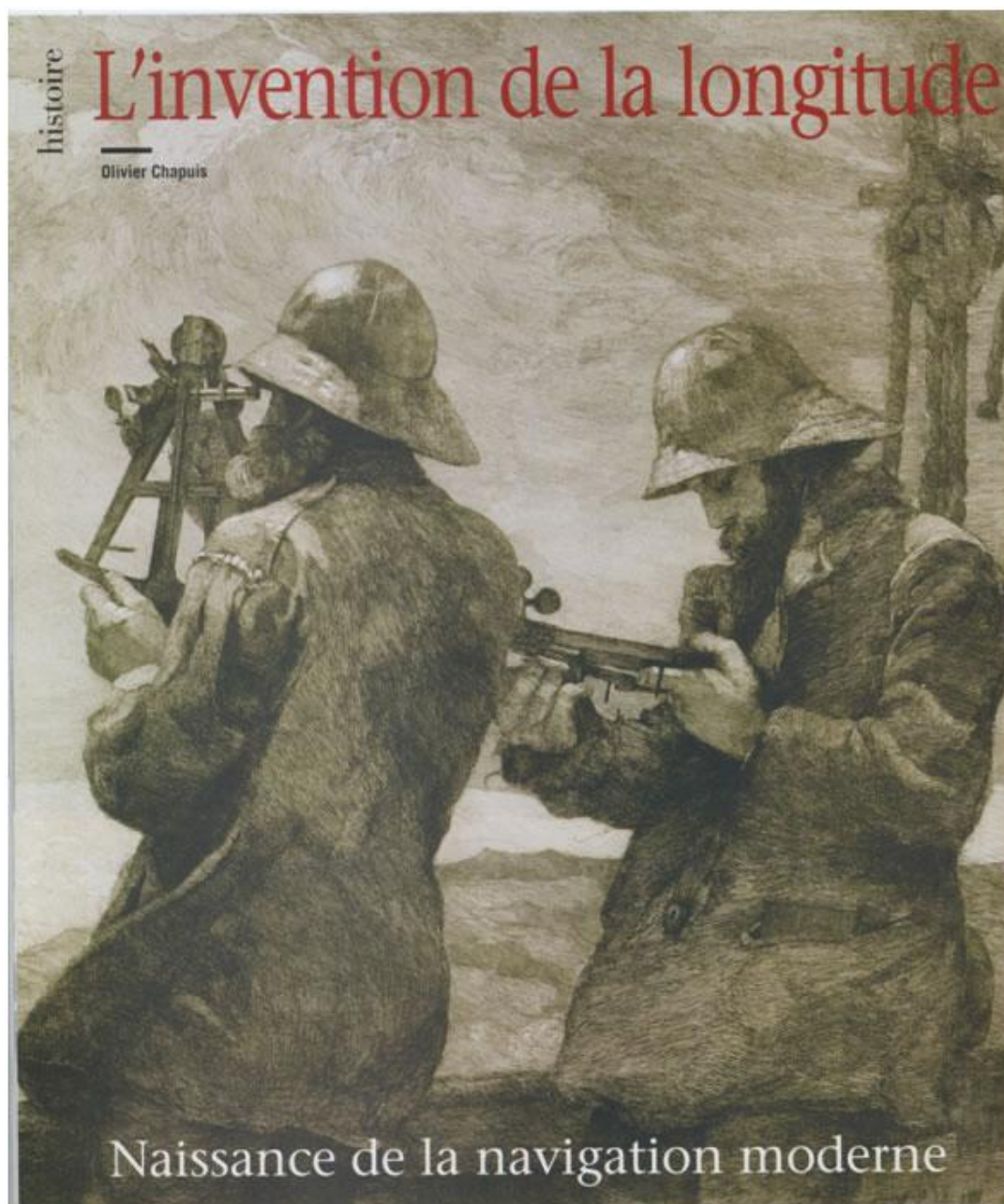
Source: UNCTAD secretariat

**The alternative routes will add substantial costs.**

One Earth Future (OEF), a private foundation, is committed to seeking effective solutions to emerging governance challenges. OEF's first project was a strategic commitment to the Oceans Beyond Piracy project. Oceans Beyond Piracy seeks to engage and mobilise stakeholders to develop a global response that deals comprehensively with deterrence, suppression, and prosecution of piracy. \*This is an extract from a paper published by Oceans Beyond Piracy - [www.oceansbeyondpiracy.org](http://www.oceansbeyondpiracy.org)

TankerOperators

**Inséré le 21/06/12 – Historiek - Historique – Enlevé le 21/07/12**



De la fin du XVe siècle au milieu du XVIIIe siècle, la navigation - science de la route et du point en haute mer - évolue peu. L'estime n'est alors recalée que par l'observation de la latitude. Si le concept de longitude est connu, son acquisition à la mer reste impossible. Il faudra bien des essais - des plus farfelus aux plus sérieux - pour qu'elle soit enfin inventée en tant que pratique.

Depuis les origines, les marins tracent leur route selon les vents dominants et la houle. Cette navigation climatologique emmène Colomb et les autres avec les alizés et les ramène en Europe - aujourd'hui comme autrefois - avec les vents d'Ouest. Cela offre le double avantage de naviguer aux allures portantes, à une époque où la plupart des navires ne remontent pas au vent, et de tenir une latitude à peu près constante, qu'il est aisé de contrôler par l'observation des astres. La détermination de la latitude s'effectue, de nuit, avec l'étoile Polaire, ou de jour, avec la hauteur méridienne du Soleil, ce que l'on appelle "prendre hauteur" à l'époque. En astronomie, la méridienne désigne la culmination d'un astre, c'est-à-dire son passage au méridien du lieu, par exemple celui du navire de l'observateur.

La prééminence de la latitude sur la longitude dans le choix de l'itinéraire a suffi aux marins pendant des siècles. Elle ne suffit plus quand, les voiliers louvoyant mieux, il devient possible de raccourcir certaines routes en distance et en temps; quand il s'agit d'explorer l'immense Pacifique puis d'y retrouver des îles minuscules; quand, pour favoriser l'essor du commerce mondial, on désire connaître le moment de l'atterrissage, sans avoir besoin de réduire la toile trois jours à l'avance pour éviter de se perdre à la côte.

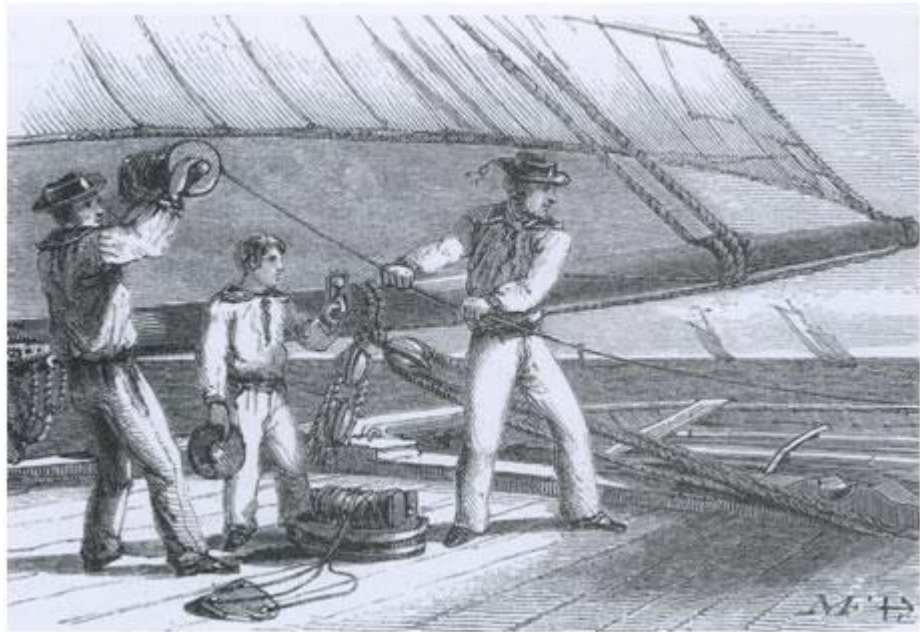
Vers 1750, une telle marge de sécurité est prise par beaucoup de capitaines effectuant une traversée de l'Atlantique, de la côte Est d'Amérique du Nord à la pointe de Bretagne, ne serait-ce que pour pallier les erreurs des cartes marines en longitude. Pire, le "boulevard" des vents d'Ouest étant fort large, certains navires atterrissent encore au XVIIIe siècle sur les côtes d'Espagne ou du Portugal en croyant être à l'embouchure de la Loire, preuve que même la latitude est loin d'être maîtrisée par tous...



Ci-contre : couverte de rhumbs (les trente-deux aires de vent de la rose du compas), la carte du golfe de Gascogne par Bellin (1753) comporte de multiples erreurs en longitude, tandis que certains marins ne maîtrisent toujours pas leur latitude.

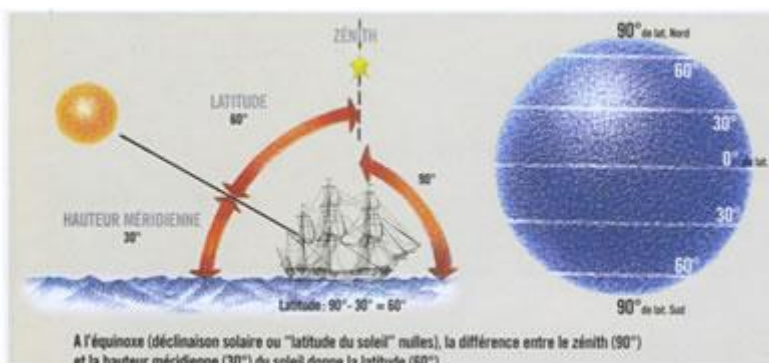
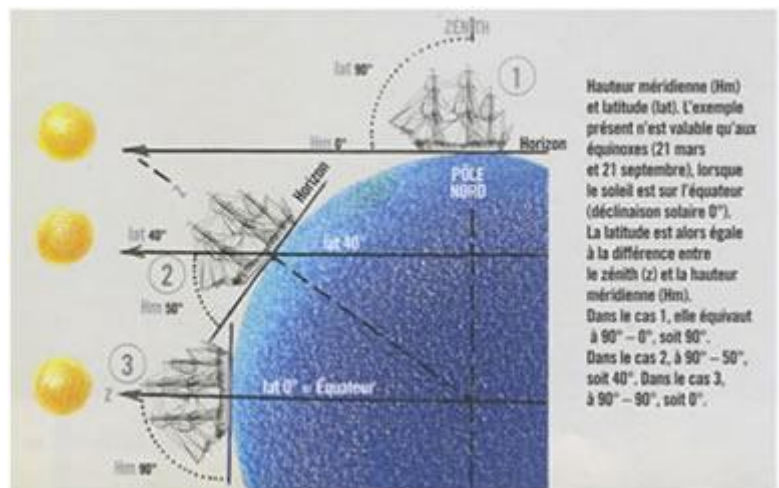
Imprécise mais tellement indispensable, l'estime est critiquée par tous les auteurs des traités de navigation, qui se multiplient à partir des années 1750. Mais elle est universellement employée par les pilotes - le terme désigne ici les marins en charge de la navigation au long cours jusque dans les années 1770-1780. Comme son nom l'indique, cette façon de naviguer consiste essentiellement à estimer la route suivie à partir d'un point de départ donné. Mais déterminer la route ne va pas sans poser de sérieux problèmes, tant ses deux paramètres - le cap et la vitesse - sont sujets à caution. Le cap est indiqué par la boussole (ou compas), familière des navigateurs occidentaux depuis la fin du XIIIe siècle (nous y reviendrons à propos de la déclinaison magnétique). La vitesse est donnée par le loch. Cet instrument, qui fait son apparition en Angleterre à la fin du XVIe siècle, permet enfin de mesurer la distance parcourue par un navire en un temps donné autrement qu'au jugé.

A l'une des extrémités de la ligne du loch dit "à bateau", est amarré un flotteur. Cette ligne est disposée de façon à être filée à l'arrière du navire en marche. Le flotteur une fois jeté à l'eau reste théoriquement sur place tandis qu'on laisse la ligne se dérouler jusqu'au début de sa partie graduée, moment à partir duquel on retourne un sablier de 30 secondes. La ligne de loch est



divisée en intervalles de 47,5 pieds (15,43 mètres environ). Ces intervalles sont marqués par des noeuds, le terme désignant également l'intervalle lui-même. Le nombre de ces noeuds - compté pendant les 30 secondes correspondant à la 120e partie d'une heure, de même qu'un intervalle de la ligne équivaut au 120e du mille marin (1) - fournit instantanément la vitesse en noeuds. Il s'agit ici du noeud "théorique", car le flotteur parcourt environ 0,90 mètre dans le même temps qu'on file ces 15,43 mètres de ligne. La différence donne un noeud "pratique" d'environ 44,7 pieds (soit 14,53 mètres). En outre, la ligne de loch subissant des allongements et des contractions, même si les pilotes la maintiennent humide, et le sablier étant sujet à d'inévitables incertitudes dans la manipulation et la lecture, le cumul d'erreurs de quelques secondes peut entraîner un mécompte de plusieurs dizaines de milles par jour.

Pire, nombre de pilotes ne placent délibérément les noeuds que tous les 41 pieds et 8 pouces, ce qui, sur une traversée océanique de 3 000 milles, rend l'estime optimiste de 360 milles. On retrouve là les trois journées d'avance en longitude sur le tableau de marche réel du navire, toujours avec le même objectif de ne pas se laisser surprendre par l'apparition inopinée d'une terre devant l'étrave. Beaucoup négligent en outre la déclinaison et la déviation magnétiques, l'appréciation de leur dérive sur l'eau et l'effet du courant sur leur estime.



Lors d'une traversée océanique, on repère l'arrivée dans les eaux côtières au changement de couleur de la mer, à la présence d'oiseaux de terre ou d'algues. Pour fixer l'instant du passage sur le talus continental - indication plus ou moins fiable de l'approche de la côte, mais d'autant plus vague pour fournir un point précis

que la cartographie des fonds marins est encore quasi inexistante -, on utilise la sonde, qui, avec la boussole et le loch, est le troisième instrument indispensable à la tenue de l'estime. La détermination de la profondeur et de la nature du fond, grâce aux prélèvements effectués par le plomb de sonde, demeure le moyen le moins aléatoire.



Le renard est une planchette sur laquelle figurent les trente-deux aires de vent de la boussole. Chaque aire est percée de huit trous. Toutes les demi-heures, on place une cheville sur celle suivant laquelle on vient de gouverner. Huit demi-heures correspondent à un quart complet.

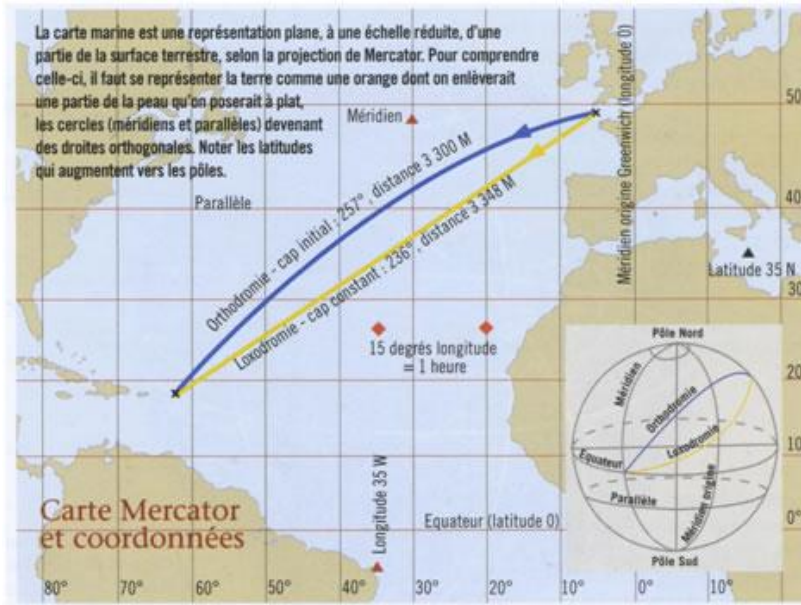
On mesure le côté anachronique d'une telle méthode de navigation dans une mer aussi fréquentée que l'Atlantique Nord, à l'ouvert du golfe de Gascogne. Des erreurs de 5 à 15 degrés en longitude sont courantes. Alors que les bateaux ont nettement évolué depuis l'époque des grandes découvertes, leur potentiel est bridé à l'atterrissage - surtout de nuit, dès que le fond est supposé être inférieur à 150 brasses (243,6 mètres) - faute d'une position fiable en longitude. C'est un frein considérable au commerce, à la guerre, à l'activité maritime en général!

Depuis l'apparition du premier portulan en Méditerranée, à la fin du XIIIe siècle, toutes les cartes sont couvertes de rhumbs, lignes qui représentent les axes principaux de la rose du compas. A portée de main du timonier se trouve le renard. C'est une planchette affectant en partie la forme d'un disque sur lequel figurent également les trente-deux aires de vent de la boussole. Chaque aire est percée de huit trous; toutes les demi-heures, l'homme de barre place une cheville sur l'aire de vent suivant laquelle il vient de gouverner (huit demi-heures correspondant à un quart complet). A la fin de chacune de ces périodes, le pilote remplit le journal de bord d'après la position des huit chevilles. Cet instrument sera utilisé jusqu'au milieu du XIXe siècle.

Dès la fin du XVIe siècle, les marins disposent de cartes adaptées au report de l'estime. En 1537, Pedro Nunes expose le concept de la loxodromie : il s'agit d'une route à cap constant, coupant tous les méridiens sous le même angle. Grâce à Nunes et quelques autres, dont Mercator, la projection de la sphère sur un plan conserve les angles - on parle de projection conforme. Cela permet de figurer toute la loxodromie par une ligne droite sur une carte

Mercator.

L'estime peut désormais se traduire par un simple changement de latitude et de longitude. Un avantage d'autant plus évident qu'il importe peu de rallonger la route, lorsqu'on n'a pas la maîtrise de son itinéraire sur le vaste océan, pour toutes les raisons déjà évoquées. La loxodromie suffit donc amplement aux besoins des navigateurs. Quant à l'orthodromie - l'arc de grand cercle -, c'est-à-dire la route la plus courte d'un point à un autre sur le globe, elle ne sera utilisée en navigation qu'au XIXe siècle, quand on sera capable de contrôler latitude et longitude d'une part, et trajectoire d'autre part, grâce à des bateaux remontant bien au vent.



La projection de Mercator, qui ne conserve pas les distances, présente une échelle variable en fonction de la latitude. Cela se traduit par l'allongement de la représentation de la minute de latitude, de l'équateur (seul endroit où la représentation des distances est exacte) vers les pôles (la sphère terrestre étant aplatie aux pôles, cette même minute croît également dans la réalité, mais beaucoup moins vite). Avec le compas à pointes sèches, le pilote doit prendre la mesure sur la portion de la graduation des latitudes située en vis-à-vis de la zone concernée. Dès qu'un

itinéraire couvre une distance Nord-Sud importante, il faut opérer régulièrement ce report. Le navigateur procède ainsi quotidiennement à la réduction des routes sur une carte Mercator, dite aussi carte réduite.

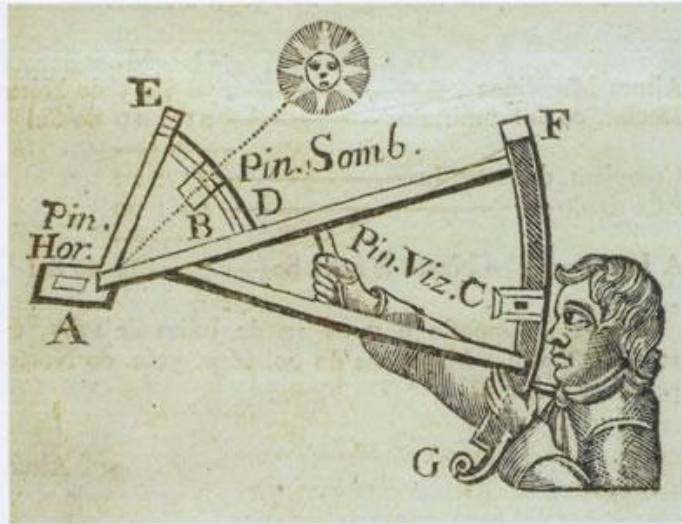
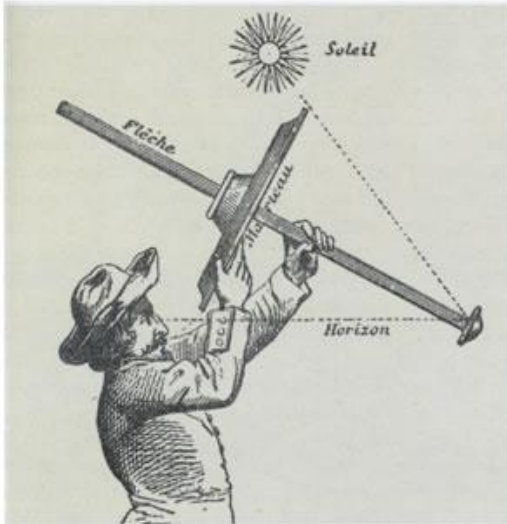
Mais la carte est souvent trop petite pour y reporter clairement toutes les bordées ou les tronçons de route parcourus par le navire dans une journée. De nombreuses autres méthodes de résolution des routes sont encore en usage vers 1750, telles que le quartier de réduction, le compas de proportion ou les tables de logarithmes. Elles témoignent du niveau de mathématiques relativement élevé que nécessite la pratique



Introduit au début du XIV<sup>e</sup> siècle, le bâton de Jacob, ou arbalète – ici extrait du manuscrit enluminé du *Manuel d'hydrographie* de Jacques de Vaulx (1583) – est encore utilisé par certains marins vers 1750. Composé de deux pièces principales en bois – la flèche (fixe) et le marteau (mobile, voir l'image page suivante) – formant une croix, cet instrument est utilisé pour viser directement les étoiles.

de l'estime chez les pilotes, indépendamment des connaissances propres à la navigation astronomique. Cependant, sans celle-ci pour la corriger, celle-là ne peut faire illusion bien longtemps. Alors que la longitude est encore hors de portée, la latitude est une pratique qui gagne du terrain. Sa méthode d'observation n'a guère évolué depuis Colomb, mais de nouveaux instruments apparaissent au cours du XVIII<sup>e</sup> siècle.

Dans les années 1750, si l'astrolabe a disparu depuis un demi-siècle, le bâton de Jacob (ou arbalétrille ou encore arbalète), introduit au début du XIV<sup>e</sup> siècle, est encore utilisé par certains. Composé de deux éléments principaux en bois, la flèche (ou verge) et le marteau, qui forment une croix, il est simple à concevoir, son coût est faible et son encombrement modéré, autant de qualités aux yeux des gens de mer. Pierre Bouguer, l'un des plus grands spécialistes de l'enseignement de la navigation, tente au moins d'en améliorer l'usage, en confirmant qu'il faut prendre la hauteur par-derrière, c'est-à-dire en tournant le dos à l'astre et en utilisant l'ombre ainsi générée sur l'instrument.



A gauche : pour viser le Soleil, l'arbalète recourt à l'observation par-derrière, c'est-à-dire en tournant le dos à l'astre, afin de ne pas être aveuglé en visant l'horizon. L'ombre du marteau est ainsi portée sur la flèche.

A droite : le quartier anglais, ou quartier de Davis, est un quart de cercle très utilisé de la fin du XVI<sup>e</sup> siècle au milieu du XVIII<sup>e</sup> siècle. Cet instrument recourt aussi à l'observation du soleil par-derrière.

Recourant lui aussi à cette technique, le quartier anglais (ou quartier de Davis) est un quart de cercle très utilisé depuis la fin du XVI<sup>e</sup> siècle. Il est pourtant déjà dépassé par un appareil utilisable de nuit comme de jour: l'octant à double miroir, invention simultanée de John Hadley - qui le présente à la Royal Society de Londres en 1731 - et de l'opticien américain Thomas Godfrey. Dénommé octant parce qu'il forme la huitième partie de la circonférence du cercle, soit 45 degrés, cet instrument est néanmoins divisé en 90 graduations - comme un quart de cercle -, ce qui permet ainsi de mesurer des hauteurs d'astres élevés, grâce au principe de la double réflexion.



Utilisable de nuit comme de jour, l'octant à double miroir (1731) est dénommé ainsi parce qu'il forme la huitième partie de la circonférence du cercle, soit 45 degrés. Il est néanmoins divisé en 90 graduations, grâce au principe de la double réflexion.

Dans son remarquable Nouveau traité de navigation (1753), Bouguer expose clairement l'intérêt de ce principe : "Un petit miroir de glace est posé perpendiculairement au plan de l'instrument. Cette petite glace n'est étamée que dans la partie la plus voisine du côté et l'autre moitié est sans étain, ce qui donne la facilité de voir l'horizon au travers de cette partie de la glace. Le pilote peut, outre cela, voir en même temps l'horizon sur la partie étamée. Le premier miroir renvoyant l'image au second et de cette sorte le pilote voit comme deux horizons, exactement à

côté l'un de l'autre et ne formant qu'une seule ligne."

La double réflexion apporte à l'observateur un

confort de visée inconnu jusque-là et lui offre, dans le même coup d'oeil, les images directes et réfléchies de l'astre visé. Avantage essentiel lorsqu'il faut "accrocher" un astre minuscule dans le ciel et "descendre" avec précision son image sur l'horizon, depuis le pont d'un navire ballotté

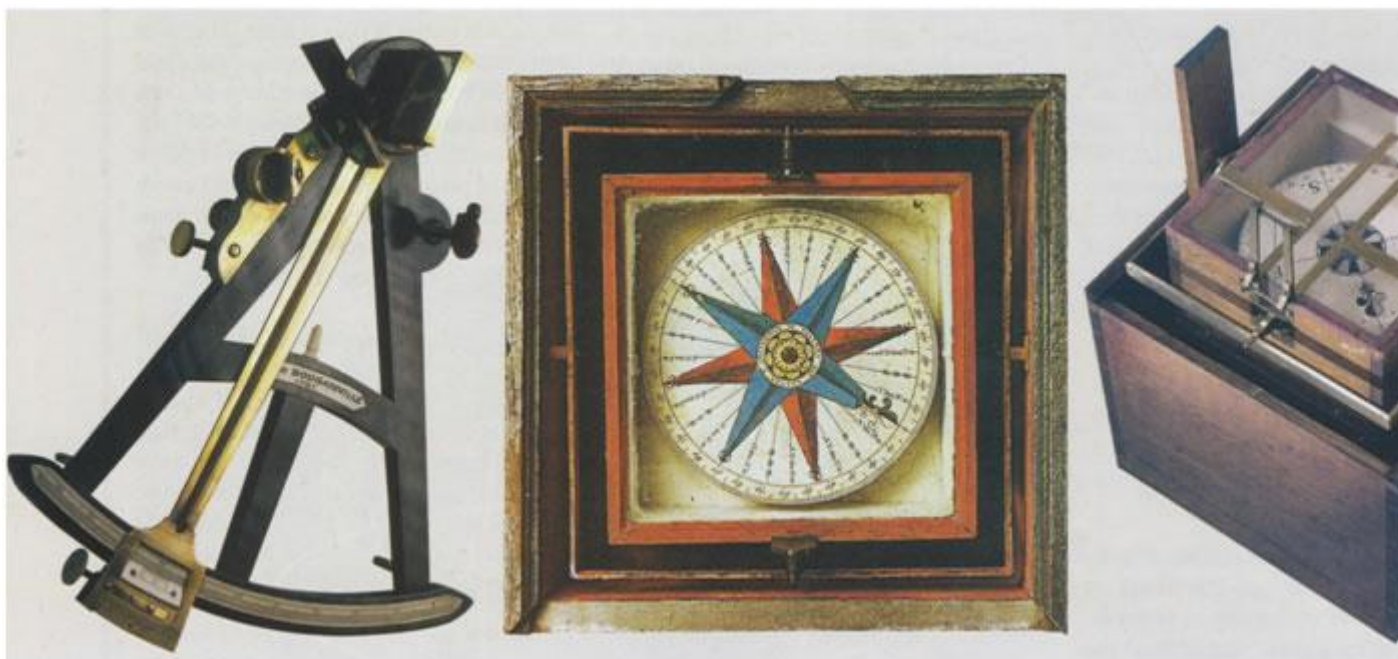
par les flots. Plus facile d'emploi, l'octant donne ainsi la hauteur d'un astre à moins d'une minute d'angle près, cette performance restant encore réservée à un petit nombre de navigateurs. Avec les instruments antérieurs à la double réflexion, il ne suffisait pas de faire concourir l'horizon avec le rayon du soleil ou avec l'ombre de quelque pinnule (plaque perpendiculaire à l'instrument et percée d'un trou pour la visée), il fallait aussi que cela se fasse en un point précis de l'appareil.



Adopté par l'élite de la marine française et amélioré par l'hydrographe Jean-Baptiste d'Après de Manneville (1707-1780), l'octant fait ses preuves pour l'observation de la latitude. Reste maintenant à l'employer pour la longitude. La théorie de cette "deuxième dimension" est connue depuis longtemps, mais au début du XVIIIe siècle, il manque encore une méthode et un outil fiables pour en réussir la pratique. Nombre d'idées sans lendemain sont d'abord proposées. Ainsi, un arpenteur de Blois tente de déterminer cette longitude par la marée, tandis qu'en 1714, les Anglais William Whiston et Humphrey Ditton, professeurs de mathématiques de leur état, proposent de tirer au canon sur toutes les côtes du monde, afin de donner l'heure aux navigateurs égarés !

L'observation de la déclinaison magnétique semble une affaire beaucoup plus sérieuse, dès la fin du XVIe siècle. Elle connaît un regain d'intérêt après 1700, avec la parution d'une carte des océans due au célèbre astronome anglais Edmond Halley (1656-1742), qui, pour la première fois, figure des isogones, c'est-à-dire les lignes reliant entre eux les points d'égale déclinaison magnétique. Mesuré avec une aiguille aimantée suspendue par son centre de gravité, l'angle entre le plan méridien magnétique et le plan méridien géographique définit la déclinaison magnétique.

Celle-ci est couramment nommée variation au XVIIIe siècle, jusqu'à ce que Charles-Pierre Claret de Fleurieu (1738-1810), l'un des meilleurs spécialistes et vulgarisateurs de la navigation du siècle des Lumières, précise ce point de vocabulaire, en 1773, et définisse -la terminologie actuelle : "Nous conserverons le nom de variation pour désigner la quantité dont la déclinaison varie chaque année dans un même lieu." On sait alors depuis peu de temps que cette variation diffère selon les points du globe. Parce qu'elle est faible dans certaines zones, certains auteurs proposent encore, vers 1750, de faire le point par recoupement avec la latitude de l'isogone correspondant à la valeur de déclinaison observée.



A gauche: bien qu'il porte le nom de Louis-Antoine de Bougainville, cet octant, en ébène et au limbe d'ivoire, serait de fabrication anglaise et vraisemblablement légèrement postérieur à la mort du grand navigateur (1811). Il pourrait avoir appartenu à son fils, Hyacinthe de Bougainville, auteur d'un voyage autour du monde (1824-1826), qui l'aurait fait graver en son hommage.

Au centre: au XVIIIe siècle, le compas de route – ici un modèle hollandais à la cardan, avec rose imprimée en taille-douce – est encore un instrument à correction, notamment à cause de l'emploi d'un cuivre pollué par le fer. Noter les graduations par quarts (de 0 à 90 degrés).

A droite: ancêtre des compas de relèvement d'aujourd'hui, le compas de variation – ici un modèle de 1725 environ, dans sa boîte, avec son système de correction – est alors un instrument fort primitif. Au XVIIIe siècle, on ne pratique pas encore la compensation du compas pour corriger ses erreurs imparfaitement.

Tous ces travaux sur le magnétisme terrestre s'accompagnent de recherches instrumentales pour améliorer les boussoles. Deux types coexistent, comme le rappelle Etienne Bezout (1730-1783), auteur d'un célèbre cours de mathématiques pour les marins, qui sera réédité sans arrêt des

années 1760 aux années 1820 : "Lorsque la boussole est employée à diriger le navire, on l'appelle compas de route. Quand la boussole sert à relever les objets, c'est-à-dire à reconnaître l'aire de vent auquel (sic) ils répondent, on l'appelle compas de variation." Ancêtre des compas de relèvement d'aujourd'hui, celui-ci est alors un instrument fort primitif. Les compas de route eux-mêmes sont encore bien défectueux, notamment à cause de l'emploi d'un cuivre pollué par des masses ferrugineuses.

Suite dans 10 jours

[Article repris intégralement de Chasse-Marée n° 177](#)

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**Inséré le 23/06/12 –NIEUWS - NOUVELLES – Enlevé le 23/07/12**

## **Floater projects give LNG sector fresh impetus**

**By David Tinsley**

Floating LNG solutions are giving substantially wider commercial and technological dimension to the LNG sector, providing platforms for business development and new trade flows. In addition to LNG storage, offtake, and regasification, 'floater' projects also include gas liquefaction. Issues of onshore or offshore resource size and location, relative costs and planning constraints for fixed shoreside terminal facilities, and asset flexibility, all have a bearing on the current market interest in floating LNG units.

A gas export project in Papua New Guinea has provided the first commercial endorsement of the floating gas liquefaction and offloading solution developed by Oslo-listed Flex LNG. Recently signed agreements with US firm InterOil and its joint venture partner Pacific LNG have paved the way to construction and operation of a production vessel to handle gas from the onshore Elk and Antelope fields in Papua New Guinea's Gulf Province.

Whether or not this proves to be the first-ever floating facility to produce LNG remains to be seen, as Shell is understood to be at an advanced stage of planning for its initial investment in its huge FLNG (floating LNG) production concept.

Flex LNG was incorporated in 2006 with the aim of commercialising floating natural gas liquefaction units, to provide a cost-effective means of sourcing gas from numerous potential offshore or onshore locations worldwide where it may not be otherwise desirable or viable to tap those reserves.

Four LNG producer hulls were ordered by Flex LNG from Samsung Heavy Industries several years ago in anticipation of securing project assignments. Work was subsequently put on hold in the absence of charters, and the agreement with the shipyard was restructured. All previous instalments paid to Samsung on the four shipbuilding contracts are to be transferred to the single vessel destined for the Papua New Guinea project once the final investment decision has been made, expected before the end of 2011.

Commencement of LNG production operations is targeted for 2014. The vessel will fulfil a 25-year contract, and will be operated by Flex LNG in conjunction with Liquid Niugini Gas, a joint venture of InterOil and Pacific LNG. With a nominal production capacity of nearly 2m tons of LNG per annum, the 'floater' is expected to be moored alongside a jetty, which will be shared with Liquid Niugini's land-based LNG facilities.

Shell signed a master agreement with a consortium comprising Samsung and French engineering contractor Technip for the design, construction and installation of multiple FLNG vessels over a period of up to 15 years, intended to monetise stranded or smaller offshore gas fields. The conceptual FLNG has main dimensions of some 450m x 70m, with liquefaction capacity of 3.5m tons per annum, plus associated LPG and condensate production. The first applications could be off northwestern Australia, and to the north of Australia in the Timor Sea.

Towards the end of last year, Papua New Guinea's executive council approved a project involving an LNG-FPSO to be stationed in the Gulf of Papua, to draw on extensive gas resources. The standalone scheme is known as the PNG Floating LNG project, and has been jointly developed by Petromin PNG Holdings, Hoegh LNG and Daewoo Shipbuilding & Marine Engineering.

Over a four-year period, Hoegh LNG and its partners have prepared the requisite LNG-FPSO design and technology. The envisaged vessel and processing systems would be constructed at Daewoo's Okpo yard, and will have an LNG production capacity of 3m tonnes annually plus storage for 220,000m<sup>3</sup>. The parties are now hoping to reach agreements with the PNG Government, and gas suppliers and buyers, with a view to bringing the unit into operation by mid 2014.

Following on from the delivery of two innovative, LNG shuttle and regasification vessels (SRVs), Hoegh LNG has recently made a further, major commitment to the fast growing market for floating regasification solutions. Utilising the Norwegian company's in-house design, construction of two 170,000m<sup>3</sup> floating storage and regasification units (FSRUs) has been provisionally awarded to Hyundai Heavy Industries (HHI). Options appended to the agreement provide for an ultimate series of six Hoegh FSRUs from the Korean yard.

Hoegh LNG believes that the floating regasification sector will be the LNG segment affording the strongest growth over the medium-term, especially so in the Asia-Pacific region, but also among certain fast developing economies in the Atlantic markets. The FSRU option is advocated as the most cost efficient and quickest way for a country to import LNG, increasingly favoured as a fuel for power generation.

When the letter of intent was signed with HHI in April this year, Hoegh LNG's President and CEO Sveinung J. Stohle expressed confidence in future business prospects. "Given the very strong LNG market, with an expected growth of 6%-7% on an annual basis over the next few years, and our qualification to bid for all new FSRU projects, we have with this agreement with HHI put Hoegh LNG in the position to compete for such projects based on our new built FSRUs.."

The sector is currently served by 13 units worldwide, with three under construction, and around 25 in various stages of development.

Golar LNG was the first company to convert a large LNGC into an FSRU. It is currently involved in five floating solutions, and earnings from the FSRU segment gave a boost to the company's income in 2010. "Golar is in final discussions regarding firm commitments for construction of multiple FSRU carriers," stated the organisation in late April.

Meanwhile, Golar is making a huge investment in the development of its LNG carrier trading fleet. Little more than a week after its recent award of four vessels of 160,000m<sup>3</sup> capacity to Samsung Heavy Industries, the company upped the programme by signing contracts for another two ships. Four of the series are due to be completed in 2013, and two are expected in 2014, and encapsulate a total value of \$1.2bn. In addition, Golar retains options on a further two LNGCs, which would take overall expenditure to at least \$1.6bn.

Each vessel will employ dual-fuel diesel-electric technology, favoured on grounds of comparative fuelling costs over steam turbine propulsion, the erstwhile powering mode of choice in the world LNGC fleet. Technical options built into the agreement with Samsung afford the owner the possibility to adopt regasification equipment, and to incorporate ice strengthening and winterisation.

The relatively early delivery dates and nature of the option package make this an attractive deal for Golar. "The supply/demand balance for LNG shipping looks increasingly attractive," observed Golar LNG's Chairman John Fredriksen. "It is clear from the continued strong global LNG demand and supply growth that a significant amount of new infrastructure, including shipping, will be required over the coming years," he added.

Over the past couple of months, other newbuild orders have been reported by industry and broking sources to have been placed with Korean yards, the pre-eminent global force in LNG carrier construction. Greek interests are behind a contract for a vessel of 156,000m<sup>3</sup> awarded to Daewoo, while an undisclosed shipowner is said to have placed two LNGCs in the 155,000- 160,000m<sup>3</sup> category with Samsung.

China's shipbuilding industry has secured a prestigious entry into the export market for LNG carriers, by way of a major contract sealed at the start of 2011, and involving Japan's Mitsui OSK Lines (MOL). Hudong-Zhonghua booked a series of four vessels, understood to be of about 170,000 cubic metre capacity, for delivery in 2015 and 2016. As the ships are to be used in support of Chinese purchases of gas, the authorities had stipulated that the vessels be built in China. Hudong-Zhonghua cut its teeth on LNGC construction with the 147,700 cu m Dapeng Sun-class.

The latest contract was steered by MOL and ExxonMobil, and arises out of the requirement for transportation capacity to support shipments from LNG projects in Papua New Guinea and Western Australia. The four vessels will be jointly owned by MOL and China Shipping. China's overall demand for LNG is growing as the country seeks ways of increasing 'clean' energy usage.

Addressing the specific requirements of regional distribution of LNG, FKAB of Sweden has designed a 16,500cu m vessel, embodying three bi-lobe IMO type C independent tanks with spherical heads and served by six deepwell cargo pumps. A dual-fuel main engine of 5,250kW figures in the basic specification.

In the small-scale LNGC stakes, Rotterdam-based owner Anthony Veder has ordered a 15,600cu m vessel from Meyer Werft. The Dutch gas tanker company's contract is the latest in a long line of bold initiatives which have included the construction of the 7,500cu m LNG/LPG/ethylene carrier Coral Methane, used in regional LNG trade since delivery in 2006.

Veder's fleet also features the world's first purpose-built carbon dioxide (CO<sub>2</sub>) carrier, the diminutive, 1999-built Coral Carbonic. Deployed in Baltic/northwest European service, this IA ice class tanker transports liquefied CO<sub>2</sub> in a single cargo tank of 1,250cu m capacity.

There are currently four coastal CO<sub>2</sub> carriers operational in northern Europe, serving the food and beverage and waste treatment industries. The ships that would be required for carbon capture and storage (CCS) projects will have to be substantially larger, although vessel design issues would be similar to those addressed in LPG carriers.

One of the major consequences of global investment in LNG liquefaction trains is the attendant effect on LPG availability and export volumes, since significant amounts of LPG are produced in association with LNG.

Although delays in plant completions have modified the extent of growth in the LPG business since 2008, it is anticipated that LPG volumes will increase substantially in future years, other positive factors being robust Asian demand and the ramping-up of refined oil product production, in which LPG is a by-product. The earnings environment for the largest LPG tankers, or VLGCs (very large gas carriers), is set for solid improvement over the next two years, according to analysts.

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**Inséré le 25/06/12 – NIEUWS – NOUVELLES – Enlevé le 25/07/12**

## **BAE Systems punts anti-pirate laser**

British defence multinational BAE Systems has successfully demonstrated a prototype device that it says will serve as an effective non-lethal deterrent against pirate attacks on commercial vessels such as oil tankers and container ships.

Piracy is on the rise worldwide according to records kept by the International Chamber of Commerce's International Maritime Bureau (IMB). Some 430 attacks were reported last year, up from 406 in 2009, 293 in 2008, 263 in 2007, 239 in 2006 "As pirates increase their range of operations and their capabilities, commercial shipping agents are increasingly looking for ways of preventing attacks whilst avoiding armed guards on their ships," BAE Systems says in a statement.

In order to help combat the growing piracy threat, BAE Systems has conducted a study of pirate behaviour and a company-wide capability survey. This led to the development of the concept of using a non-lethal laser, which would leave only temporary effects, to distract and deter potential attackers from a distance. Leveraging the capability of its Optics and Laser Technology Department

within its Advanced Technology Centre, BAE System's researchers conducted a number of experiments to assess the feasibility of laser distraction as a non-lethal weapon. The research team has now successfully demonstrated a suitable laser at the Pershore Trials Range in Worcester over a variety of distances in a variety of conditions.

The company says a laser beam is capable of providing a visual warning to pirates at distances greater than 2km, and of disorientating attackers sufficiently at lesser distances so that weapons cannot be targeted effectively. At all times the power levels of the laser remain eye safe. Roy Evans, BAE Systems capability technology lead for laser photonic systems, says the "effect is similar to when a fighter pilot attacks from the direction of the sun. The glare from the laser is intense enough to make it impossible to aim weapons like AK47s or RPGs, but doesn't have a permanent effect."

The laser was trialled during night and day in varying weather conditions at the Worcester facility. Cameras were placed at the target location to demonstrate the level of beam intensity and divergence produced by the test runs. Beam oscillation techniques were also demonstrated. The researchers have developed a bespoke Neodymium Yttrium Aluminium Garnet (Nd:YAG) laser which is an effective deterrent at relatively low power levels. By utilising targeting systems and changing beam patterns, the distraction effect can be made more pronounced and be used against multiple targets. "We successfully showed that the laser works not just during the night, but also in full daylight. But, there are many more requirements to meet before placing a non-lethal laser weapon on commercial ships," Evans said. When fitted on commercial ships the laser distraction system could utilise its own targeting capability or integrate with existing ship radar and sensor systems to control the direction and power of the beam. It could therefore work semi-autonomously and would also include security features to ensure it could not be used by pirates if they boarded the ship. Bryan Hore, BAE Systems business development manager and the lead for the anti-piracy programme, noted laser distraction "is part of a wider programme of anti-piracy technologies being developed by BAE Systems, including radar systems, which utilises expertise and knowledge from the military domain. The aim of the laser distraction project is now to develop a non-lethal deterrent to pirates, which has no lasting effects, which can work in a maritime environment, be operated by the crew at no risk, and be cost effective." **Source: [defenceweb.co.za](http://defenceweb.co.za)**

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**Inséré le 27/06/12 – OPEN FORUM – Enlevé le 27/07/12**

## **Anti-piracy – are weapons the answer?**

**This paper is intended to help inform the debate on the use of arms, in particular, armed 'sea marshals', in the protection of vessels conducting commercial business\*.**

A better understanding of the factors that will affect the maritime adventure with the introduction of weapons to vessels is required. The following is a summary of those factors.

The underlying motivation to arm vessels is a genuine desire to protect crews, ships and cargo. However, the debate currently seems to be driven more by the following: fear induced pressure on the stakeholders; the questionable authority of some proponents of arming ships; frustration throughout the industry at the apparent ease with which pirates can gain access and control of ships.

There is also much confusion on the subject of arming vessels, with the polarised views of the absolutely 'NO' lobby and the definitely 'YES' lobby, an uncertain legal environment, the effects of competing interests and the absence of real direction. The argument for arming ships increasingly relies on the use of the strap line "No ship with armed escorts has been taken." There are many equally true statements such as, "ships with particular funnel markings have not been taken".

In our view, the real debate should not be as to whether armed 'sea marshals' are appropriate for defense of vessels, but how to better protect shipping on a global basis. However, within the scope of this paper we will focus only on the issue of arms in protecting a maritime adventure.

In our view, the employment of armed guards does not, and should never allow the delegation of responsibility for their actions, or the accountability for the consequences from the employer.

**Risk assessment**

The starting point in the decision making process as to whether to employ armed support should be based on a full understanding of the risks that must be mitigated. In the context of this paper this is piracy, or perhaps more accurately, the unauthorised access to a vessel of unknown persons with a view to detaining the crew, ship and cargo for ransom of some kind, or the removal of cargo and/or possessions of value. (This covers situations globally).

It is fundamentally important to understand the modus operandi of pirates and their training and equipment; indeed, without an understanding any decision is likely to be flawed. Also, and in relation to Somali pirates, the debate as to whether they are actually pirates or terrorists, in the context of defending against them, is purely academic and has more to do with political agendas than providing a solution to the problem, and has no place in the threat assessment other than help define their motivation.

In any risk assessment, it is advisable to look at the situation from the attacker's perspective. It is also important to understand the three elements that are necessary for any successful attack.

- 1. Motivation: This is clearly a commercial proposition with large sums to be made.
- 2 Opportunity: This is provided by the target market, ie ships; and in the case of transiting the Gulf of Aden it is fundamentally important to understand the opportunity a vessel presents to any potential attacker.
- 3. Capability: This is the resource, expertise and the training required by pirates to be able to take advantage of any opportunity presented to them.

With regards to motivation, if we are successful in removing the opportunities that exist and restrict the capabilities of the pirates it will become a less rewarding enterprise for pirates and in doing so we attack their motivation.



**Proper consideration should be given when thinking of arming vessels.  
Photo credit - Kelvin Hughes.**

A brief example of this may be that if 20,000 plus ships transit the Gulf of Aden each year, this provides 20,000 possible opportunities. While other obvious factors will remove some of these transiting vessels from the 'opportunity' category many more vessels could remove

themselves from it if their masters and crew understood and were confident in the defensive capabilities of their vessels.

Size, speed and freeboard are characteristics that, if supported by good procedures, should require no additional security and, properly utilised, will put many ships beyond the capabilities of the pirates. In principle, the identification and removal of as much opportunity as is possible-without

affecting the commercial enterprise- and the restriction of the pirates' capability to effectively deploy their resources combined with good procedures and their effective application will substantially mitigate the risk and will reduce the threat to shipping in general.

Of fundamental importance is that to achieve their aim, pirates must gain access to the controls of the target vessel. Gaining access to the deck alone need not necessarily provide access to controls. In any attack, we need to look at it from the pirate's perspective and the problems confronting them in achieving their objectives. They must come alongside the target vessel; they must climb the vessel to gain access to the deck; they have to traverse the deck and companionways to gain access to and take over the controls. They must make a transit to a safe port and then carry out the rest of their activities.

Difficulties that will confront pirates are; sea states, bad weather, height and difficulty of freeboard to climb, speed of target vessel, wash and manoeuvring, as well as weapons effectiveness (they do not have the weapons with the capabilities of stopping the majority of ships unless their intimidating image prevails!). A stationary vessel in a calm sea is a considerably easier prospect than one that is manoeuvring at speed.

From considerable experience in shooting, training and developing shooting techniques, we can testify to the difficulties experienced by most professional soldiers in achieving hits over 100, 200 and 300 m, when firing from a stable ground platform against a stationary target fixed to a stable platform in a benign range environment.

When you apply any movement at either end, the difficulty increases dramatically and when movement is at both ends, accuracy is replaced by luck. The chances of anyone firing from a moving skiff and hitting what they are aiming for, is very low. A hit with even an RPG7, to do any serious damage, would have to be luckiest shot in the world, and would certainly not be the result of deliberate aimed shot at a specific point on the vessel.

The use of weapons to counter piracy needs to be carefully thought through. The application of weapons should be a staged approach with the first being deterrence. For deterrence to be effective, knowledge of the weapon systems presence must be with the pirates. It must also be in their minds the fact that the weapon systems on board the vessel are more powerful than their own otherwise any deterrent effect is diminished.

To achieve this, the weapons systems on board have to be prominently displayed at least at the point of danger.

The next stage where deterrence has failed is to effectively neutralise an attack. The weapons must either be able to put down sufficient fire power as a demonstration to clearly convince pirates that further attack would not be in their interest; or be of sufficient accuracy to disable the power units of pirate vessels; ideally without endangering any of the occupants of the pirate vessel.

This requires a category of weapons that can be described as 'specialist'. Weapons such as pistols, shotguns and single shot rifles are not capable of providing a deterrent. Neither are they capable of effectively stopping a determined armed attack. Of equal importance is the expertise of those handling the weapons systems on board ship and this is an area where the shipping industry will find it most difficult to determine.

Having served in any branch of any military for any length of time will not, on its own, illustrate the capability of security personnel with any weapons system. There is no effective system of accreditation for security companies in the world. Some of the companies who have signed up for latest Swiss generated protocols have dubious histories in relation to application of standards and there is no way of effectively policing whether or not a company complies with what it has signed up for.

When the risks are fully understood, the appropriate weapons systems have been identified and are manned by those of requisite experience so that the advantage and control of situation clearly lies with the ship and its security there needs to be clear rules of engagement to cover every situation.

Perhaps two of the most difficult areas within the rules of engagement are:

1. Who has control of the situation?
2. What actually constitutes a risk to life whereby, pirates would be engaged with lethal force?

It is our view that in all circumstances the Master must have control (and this is probably the legal position), supported and advised by the head of security. What constitutes a risk or a threat to life will, in many cases, be subjective and dependent on the experience of those security operatives involved and this could increase dramatically the potential for criminal error.

## Summary



**GAC Solutions provides security services.**

To achieve and then maintain control, the industry needs to institutionalise a better understanding of the actual risks confronting it. It must also have the means to communicate this knowledge to individual ships' Masters, officers and crews, so that all can and do understand the actual risks and how to mitigate them. In situations where it is considered appropriate to have weapons on board vessels, there needs to be a clear understanding of what constitutes appropriate weaponry that will effectively provide deterrence, and where deterrence fails be capable of effectively neutralising an armed and determined attack.

Where weapons are deployed, it is absolutely critical that those employed to operate them have the appropriate skills and experience and are also current in weapon use. Finally, rules of engagement need to be appropriate and have to be realistic; and there must be absolute clarity as to who has control.

The legal ramifications of this practical consideration are likely to be extensive.

Without proper consideration of the factors above, the deployment of weapons on vessels will do nothing to reduce the risk of piracy to shipping and could in fact perversely add further and unnecessary risks to the industry at considerable extra cost.

TankerOperators

\*This is an extract from a paper written by: Andrew Kain, CEO and Ric Filon, director maritime services, AKE Ltd. AKE acknowledges an interest through its support to GAC Solutions in the provision of maritime security services and support to maritime clients.

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**Inséré le 27/06/12 –BOEKEN BOOKS – Enlevé le 27/07/12**

**BOOK REVIEW By : Frank NEYTS**

## **“Manchester Liners – an extraordinary story”.**

Coastal Shipping recently published **“Manchester Liners – an extraordinary story”**, written by Nick Robins. “Manchester Liners” is a fully illustrated company history. Manchester Liners was created with help from Sir Christopher Furness in 1898 to demonstrate the viability of the new Manchester Ship Canal for liner traffic. From the outset its core product was a seasonal service between Manchester and Montreal and, when the St Lawrence was frozen over, St John, New Brunswick. Connecting services were arranged into the Great Lakes ports, and diversification with routes to the eastern seaboard and southern US states helped develop a strong company, which was eventually to have a pioneering role in the development of the transatlantic container trade.



The people involved in driving the company are fascinating. The triumphs and the failures of the company are recounted with an emphasis on the human story. The link with the City of Manchester underlines the important role both Manchester Liners and the Manchester Ship Canal Company had in wealth creation in the north-west of England during the twentieth century. This book will appeal to all ship lovers. Strongly recommended!

"Manchester Liners" (ISBN 978-1-902953-55-7) is a hardback book, A4 size, of 144 pages. The price is £17.50, exclusive P&P. Ordering via the bookshop, or directly via the publisher, Coastal Shipping, 400 Nore Road, Portishead, Bristol BS20 8EZ, UK. Tel/Fax: +44(0)1275.846178, [www.coastalshipping.co.uk](http://www.coastalshipping.co.uk)

**Inséré le 29/06/12 –NEWS NOUVELLES – Enlevé le 29/07/12**

## **Ships Deter Pirate Stalkers by Signaling Armed Guards' Presence**

Ships at risk of attack by Somali pirates are increasingly indicating when they have armed guards on board to deter assailants they suspect are using Internet-based vessel-tracking systems to identify targets. At least 30 ships ranging from oil tankers to commodity carriers last indicated they were being protected by armed security, according to satellite signals captured by IHS Inc. (IHS) and compiled by Bloomberg today. The tactic probably started in December, according to OAO Sovcomflot, Russia's largest tanker company, which is among the companies using the practice.



Pirates are using Internet-based tracking systems to watch shipping and naval activities, according to **Hans Lodder**, head of the Netherlands Defence Staff's Naval Requirements Branch and a former commanding officer of the frigate **HNLMS Tromp**. Under International Maritime Organization rules, captains are normally meant to transmit Automatic Identification System signals to avoid accidents at sea, with an option to switch the gear off if its use is thought to make a ship vulnerable to attack.

"Putting such a statement in the destination field in AIS can be seen as a warning to pirates able to monitor AIS and as a notification to naval forces about the presence of armed guards," Peter Sand, an analyst at the Baltic and International Maritime Council in Bagsvaerd, Denmark, said by e-mail yesterday. The group represents 65 percent of world owners. Global pirate attacks fell 28 percent to 102 in the first quarter as naval interventions reduced incidents off the coast of Somalia, the London-based International Maritime Bureau said April 23. About \$965 billion of cargo bound for Europe passes through the high-risk area, according to Justine Greening, the U.K. Secretary of State for Transport.



Vessel masters decide whether to display information other than a destination using AIS equipment, Sand said. They can turn off the signals in areas at risk of piracy, provided they turn the gear on again when attacked, according to **Interiorient Marine Services** (Germany) GmbH, whose ships transit the area twice a month. No

ship carrying armed guards has been hijacked successfully, according to the Security Association for the Maritime Industry. The EU force has a mission of containing piracy in a region about 1 1/2 times the size of western Europe with nine warships and five patrol aircraft. Video footage on the website of Google Inc. (GOOG)'s YouTube showing Dutch marines seizing a ship that had been hijacked by pirates in 2010 was downloaded 35 times in Somalia, Lodder said.

"The pirates are becoming more violent, more cunning, and they are increasingly using sophisticated technology, including GPS, satellite phones and international connections," Saeed Mohamed, minister of maritime transport, ports and counter piracy in Somali Puntland, said at a conference in London May 16. Networks in places including London and Dubai are used to identify destinations and locations of vulnerable ships, according to the minister. Maritime piracy's total cost came to \$7 billion last year, according to Oceans Beyond Piracy, a project of the Broomfield, Colorado-based nonprofit One Earth Future Foundation. The shipping industry bore more than 80 percent of costs, it said in a report. Spending on security equipment and guards amounted to between \$1.06 billion and \$1.16 billion, the report showed. It's important that captains don't try to bluff pirates by pretending to have armed guards on board, said David Sharp, health safety security environment manager at Unicom Management Services (Cyprus Ltd). The company is a ship-management unit of OAO Sovcomflot, which operates 157 vessels, its website shows. "Initially I don't see any issue with it, excepting of course if the information is incorrect," Limassol, Cyprus-based Sharp said by phone yesterday. "If it's incorrect, it could result in the delay of military intervention. When a team's on board, I have no objection to it. But to try and fool people, it's a double-edged sword." **Source: Bloomberg**

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