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## IMO rules push Ship-to-Ship transfers back into the limelight

**News of classification societies, notably Lloyd's Register (LR), DNV and ABS, issuing plans and checklists specifically aimed at ship-to-ship (STS) transfers proves just how much interest there still is today on this type of loading/discharge methodology.**

The driver for these initiatives is the impending IMO MARPOL Chapter 8 Annex 1 amendments, one of which is aimed at regulating STS. These amendments start to come into force on 1 st January 2011 and include a new section to cover STS activities while underway, or at anchor. A leading Ship to Ship Transfer expert warned; "...this legislation will comprehensively remove any ambiguity in the way operations are conducted. The impact of the legislation should not be underestimated and there will no longer be a place for any sub-standard operations, even in the remotest backwater".



Fenders are critical to STS operations.

This regulation covers both crude oil and products cargo transfers on tankers of over 150 gt, but does not include bunkering operations using barges/tankers, or transfers from platforms /FPSOs/FSOs receiving produced oil. It should be noted that while it does not include actual bunkering operations, it does include the filling of bunker tankers alongside a storage tanker and brings even these relatively small scale operations under exactly the same regulatory requirements as a large tanker.

Although STS has been undertaken for many years, mainly as a lightering, or topping off exercise, it is only recently that the general public has sat up and taken notice of what is going on virtually on their doorstep. This is primarily due to the recent huge increase in offshore storage in tanker hulls due to the contango situation, which has arisen during the past few years.

A typical offshore operation is normally carried out while both vessels are underway at around 5 knots. The approaching vessel parallels and

matches the speed of the 'mother' ship, then closes slowly to come alongside. Captain Robert Gilchrist, a director of Safe STS stated "Undertaken correctly, the operations are not as dramatic as are sometimes made out and there are a significant number of safeguards in place to minimise the chance of steel-to-steel contact or oil pollution. These measures comprise of trained and competent personnel, tried and tested procedures, certified and tested equipment, slow approach speeds (less than 0.3 knots), pneumatic fendering, double hulled vessels, oil pollution response vessel standing by and a comprehensive Risk Assessment, these together have contributed to giving our industry a track record of safe operations to be proud of. " For this reason, he believed that in many cases, STS operations are much safer conducted while the vessels were underway in deepwater, rather than bringing vessels into shallow waters and congested ports.

Taking the UK as an example, STS operations have switched from the Lyme Bay area — the favourite of the 1970/1980s - to off Southwold and in Scapa Flow. STS operators voluntarily implemented an STS management system alongside the MCA and already meet nearly all of the

Marpol requirements. A few years ago, a scheme was introduced to transfer Russian oil in an STS operation in the Firth of Forth. However, local opposition was such that this scheme did not get off the ground.



Since then, the ports of Copenhagen/Malmö and Gothenburg among others have set up storage facilities ashore for Russian oil, which is shipped out of the Baltic ports for transshipment to the US and other destinations in larger vessels. Off Denmark, there are dedicated STS areas near the Skaw, Kalundborg and Frederikshaven. Further south, the Port of Rotterdam has installed large buoys in the Caland Canal to load vessels of up to VLCC size from smaller tankers lying alongside. These mainly tranship fuel oil for Singapore and other Asian destinations.

In the US, there are dedicated areas for lightering operations in the US Gulf, East and West Coasts and these could soon be affected by additional future legislation in the wake of the Macondo well incident. These areas are controlled by the US Coast Guard and they work closely with the STS service providers through an organisation called the 'Industry Taskforce on Lightering (ITOL)'.

As in the UK, operators work with the regional authorities and the reality is that this indirect voluntary regulation has contributed to keeping the industry safe and successful. Additional legislation would likely serve to increase overall operational cost, but as the US is reliant on lightering to import crude to the majority of its domestic refineries, STS will certainly continue for the foreseeable future.

As with any new regulation there are pros and cons and the little matter of interpretation by the flag states.

### **Vessel specific plan**

In essence, the new regulations require the development of a vessel specific STS plan describing how the operation must be conducted, which has been approved by the vessel's flag administration. In addition, the relevant coastal states will have to be notified of the intention of carrying out a transfer no less than 48 hours in advance. Some relaxation of the rules may be allowed in certain very specific cases, the IMO said.

Consequential amendments will need to be made in the International Oil Pollution Prevention (IOPP) certificate, the IOPP's supplement and the Oil Record Book. The class societies have said that they will work with the STS operators to produce manuals and approved customised plans.

Indeed, LR has produced such a draft document that a shipowner can utilise as a template and can be found free of charge on its web site ([www.lr.org](http://www.lr.org)).

A significant change is that owners or operators contemplating an STS must give a minimum of 48 hours notice to the local authorities if the STS is to be undertaken in territorial, or EEZ waters. It is recognised that flag states are steadily increasing their level of requirements for the vessels undertaking such operations, with an implication of additional costs and time required for the notification/permission process. As the approved vessel specific STS plan, conforming to the guidelines, must be in place before the operation starts, flag states could potentially withhold permission for noncompliant vessels.

"When considering a ship-to-ship (STS) operation, the parties involved should take advice as soon as possible to avoid potential delays to operations and understand the extra costs involved through a variety of individual plans being produced to meet the new MARPOL rules," Capt Gilchrist explained. Charterers will need to look at the plan to see if there are any potential hidden costs for their account, as the plans drawn up will be unique to each individual vessel. "The implications of each plan will need to be understood prior committing to a particular contract, as any potential amendment to the plan needs to be sought through class," he said.

Capt Gilchrist advised to note the following in particular:

- The Master and owner has a legal responsibility to meet the exact requirements of the Marpol plan.
- The charterparty clause for STS needs to recognise the significance of the change from 'recommendation' under OCIMF to 'requirement' under Marpol.
- The individual vessel plans need to be checked to ensure they are compatible and suitable for the planned trade.
- Personnel, support craft and pollution response requirements of the vessel plan should be clearly identified.
- Any met-ocean restrictions will still allow the planned operations to proceed.

He explained that these plans have to be approved by class and potentially the flag state controlling the area of each operation and it is unclear how (or if) some flag states can manage this effectively. He warned that owner/charterers/traders should also be made aware on the impending pitfalls of not complying with the new regulations.

Under the new Marpol Chapter 8 rules, vessels have to keep a three-year record of compliance to these rules, available for inspection. The onus will be placed on the, master and shipowner to prove compliance to the new rules and if not, he or she could be in danger of a serious non-conformance within the vessel ISM system and potentially prosecution under Marpol. For example, if the hose testing date was not available and the operation still went ahead, the owner carries the liability and risk of penalty, if identified as a deficiency at a later date following a Port State Control inspection.



Who is responsible if the equipment fails?

Significant changes, like the formal appointment of the Person in Overall Advisory Control (POAC), commonly called the Mooring Master, before an STS takes place will become a legal requirement. In the past, standards were

in place for equipment to be used, such as fenders and hoses, however the qualifications and experience of the Mooring Master (who may have been one of the Masters of the vessels) was not clearly defined. The new regulations require the Vessel STS Plan to clearly specify the qualifications, duties and responsibilities of the POAC and provide guidance on the level of competency expected. Capt Gilchrist said "It is unlikely that given the duties & responsibilities, the owners will specify qualifications below that of Master Mariner with appropriate Dangerous Cargo Endornement".

However, Capt Gilchrist warned that while a POAC would not relieve the masters of the two vessels involved of the overall responsibility for their vessels and cargoes, the level of responsibility for the person in the role of POAC is certainly increased and extends across both vessels. In all but very few scenarios, it is unlikely that the Masters of the vessels will meet the qualifications and experience levels for a POAC and even if they are qualified and experienced, they physically cannot be everywhere and adhere to STCW 2010 working hours limits.

Questions arise, as to who may be responsible for an incident such as burst hose, the supplying vessel, the receiving vessel or the service provider supplying the hose? It is still unclear how the insurance underwriters consider liability if this specifically becomes the responsibility of the POAC and all this at a time of increasing criminalisation of the seafarer even for accidental pollution incidents.

To meet the new guidelines, he said that it was likely two professional Mooring Masters would become standard due to the increased level of responsibility throughout the whole cargo transfer operation. "By doubling up, it will be an additional cost at a time of very tight budgetary constraints, but it will increase supervision levels and be easier to train Mooring Masters on board ship, so consequently will be of real benefit to the industry," he explained.

## **Opportunities**

Overall, Capt Gilchrist thought that there were still many opportunities for STS operations worldwide, despite the downturn in storage due to the contango issue all but disappearing today.

Trade routes and patterns are continually changing. "Our policy is to ask what the companies want, rather than tell them what they need. It is matter of trust," Capt Gilchrist explained. With approvals from most of the oil majors falling into place, SafeSTS customer base is continuing to grow and the company said that it was confident of future prospects.

An additional but significant service offered by SafeSTS is giving support to governments and salvors in cases of tanker emergencies and salvage, which might involve specific STS operations to lighten a casualty. Under Lloyds Open Form (LOF), best endeavours are interpreted as best available expertise and in the company's specialist field, it claimed to provide this. Capt Gilchrist explained that while often, marine casualties are used as reason to restrict the practice of Ship-to-Ship transfers, little credit is given to the role of STS to remove the remaining oil from a casualty. Industry expertise and equipment has for many years been critical to the UK and Europe maintaining the capability to respond to such disasters and the provision of an emergency cargo transfer capability both enhances and forms part of the government's response to any national incident.

### *SafeSTS - a potted history*

*SafeSTS was formed in late 2009 by the current managing director Yvonne Mason, who previously founded Fender Care in 1988 before selling the company to the James Fisher group in 2005, together with fellow Director Capt Robert (Bob) Gilchrist MNI FIMarEST. SafeSTS and parent company Future Marine Services enable the reinvestment of Mason and Gilchrist's experience and expertise back into an industry which they are both passionate about. The first company's transfer was accomplished in April of this year. Combining technical and commercial skills and applying them with integrity will be the company's hallmark, SafeSTS said. Future Marine Services and SafeSTS regional hubs have been set up in the UK, Mediterranean and Singapore and the company now offers STS operations across 10 bases. To date, around 60 STS transfers have been successfully completed by the company. Capt Gilchrist believed that it is vitally important that at this point in time, with the introduction of significant legislation, that clients*

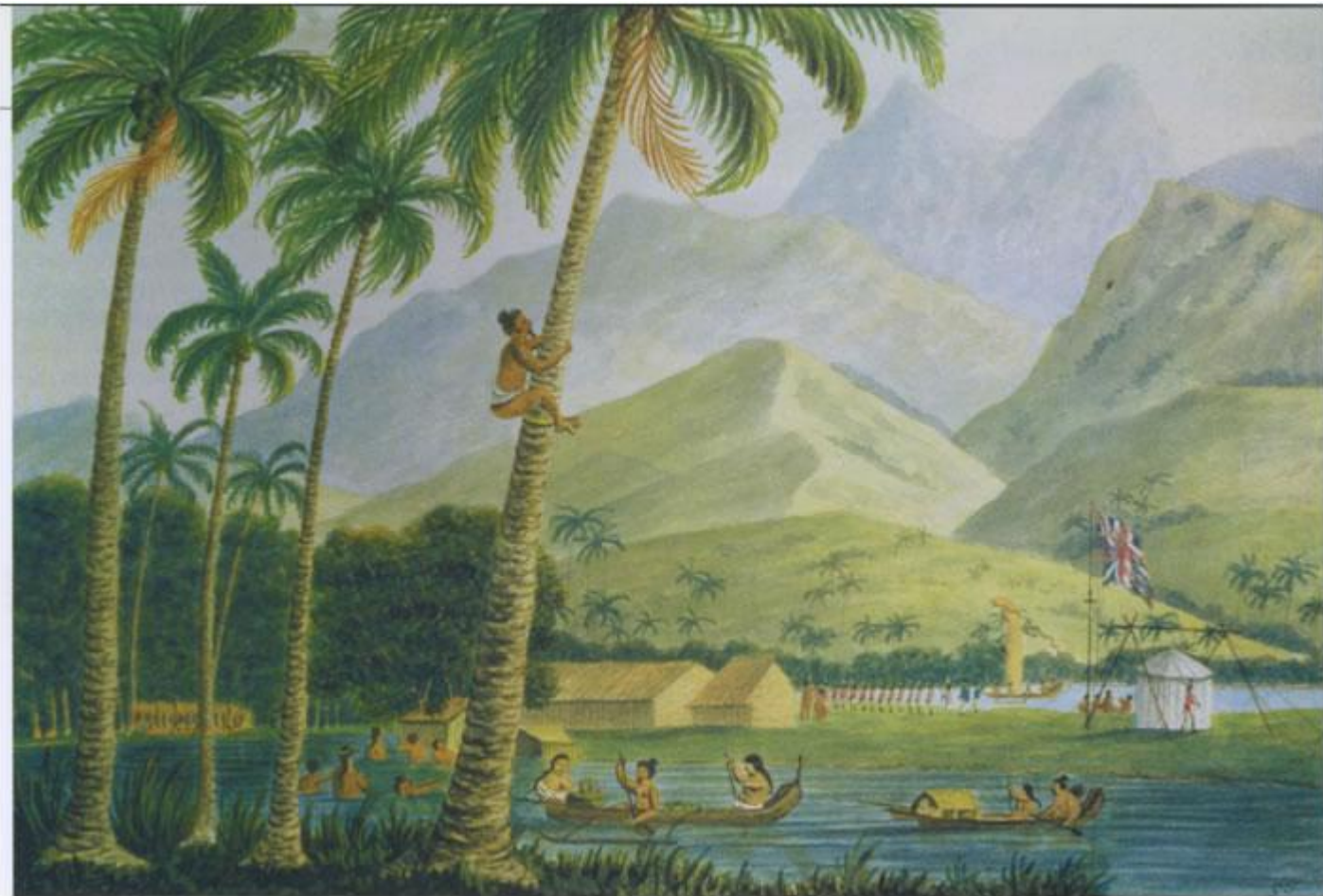
understand the potential impact on their operations. From the wealth of experience gained through many years in the industry, SafeSTS is able to offer advice and consultancy services on the issues affecting ship-to-ship transfer for both oil and gas.

Prior to starting the new companies, Mason also founded The Mason Trust ([www.themasontrust.org](http://www.themasontrust.org)) and has spent the past two years inspiring young people across the region to consider the energy and marine sectors as a career of choice. The trust provides them with global work, community based experiences and knowledge to support their decision making process. Mason said. "Numerous initiatives are underway to continue the work and the contributions and support from my industry contacts from the last 20 years have been fantastic.

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L'observatoire de la pointe Vénus, peint en 1792 par George Tobin (1768-1838). Tahiti est un site privilégié d'observations astronomiques. En 1769, lors de son premier voyage, James Cook y est ainsi envoyé pour observer le passage de la planète Vénus devant le Soleil, le 3 juin. D'où le nom du site représenté sur cette aquarelle et matérialisé par l'Union Jack.

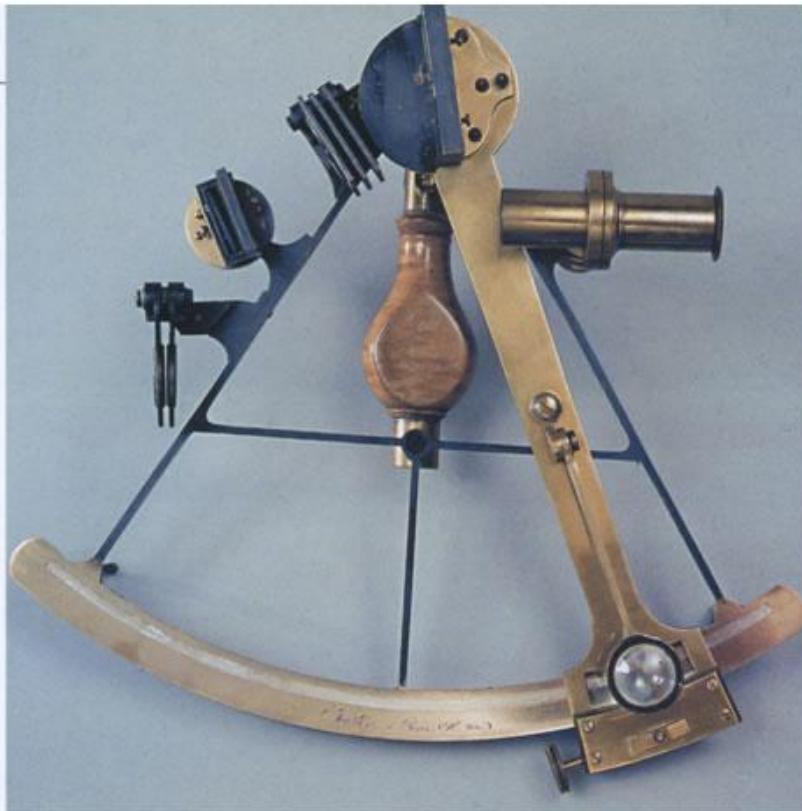


### **L'Invention de la Longitude** ( Suite et fin)

Leur installation à bord pose également de sérieux problèmes, en particulier en ce qui concerne l'alignement de la ligne de foi sur l'axe du navire. En outre, même si la déviation due aux masses magnétiques est connue depuis le XVIIe siècle - alors que le fer est de plus en plus employé à bord des bâtiments -, on continue de placer deux boussoles dans le même habitacle. Une habitude pratique pour l'homme de barre, qui a toujours un compas sous les yeux, quelle que soit sa position, mais qui est régulièrement dénoncée par les savants. Or, au XVIIIe siècle, on ne pratique pas encore la compensation du compas pour corriger ces erreurs imparfaitement maîtrisées.

Malgré tous ces errements, les observations astronomiques ont bien du mal à s'imposer. Dès le II<sup>e</sup> siècle avant J.-C., Hipparque, astronome et mathématicien grec, énonce que la différence de longitude entre deux lieux peut être trouvée par l'observation d'un même phénomène céleste - une éclipse de lune par exemple - depuis chacun de ces deux sites. A l'époque moderne, le procédé est repris par les grands observatoires, dont ceux construits à Paris (1667) et à Greenwich (1675).

A la fin du XVII<sup>e</sup> siècle, plus que les éclipses de Soleil, de Lune ou d'étoiles par la Lune, celles des satellites de Jupiter constituent l'instrument essentiel de la détermination des longitudes. Publiées par Jean-Dominique Cassini (1625-1712) dans ses *Éphémérides des satellites de Jupiter* (1668), puis reprises dans la *Connaissance des temps* (à partir de 1690), des tables prédisent l'entrée et la sortie de ces satellites par rapport à l'ombre de la planète qui les satellise, phénomènes visibles au même moment depuis n'importe quel lieu sur la Terre. En conséquence, la comparaison de l'heure du méridien origine prévue pour cet événement - imprimée à l'avance pour ce méridien de référence - avec l'heure locale notée à l'instant même du phénomène (lire l'encadré page 58), détermine la longitude horaire du lieu de l'observation. Sachant que la Terre tourne sur elle-même en à peu près 24 heures, et que cette rotation équivaut à 360 degrés, une heure vaut 15 degrés de longitude (soit 360 degrés divisés par 24). On peut donc déduire la longitude d'une différence d'heures.



Dû à l'Anglais Campbell, le sextant apparaît en 1757. Semblable à l'octant, son limbe est élargi à 60 degrés au lieu de 45 degrés. Grâce à la double réflexion, il est gradué jusqu'à 120 degrés et permet donc de mesurer des angles importants. Ce modèle des frères Jecker a été fabriqué à Paris vers 1810.

La grande affaire du siècle en matière d'occultation est le double passage de la planète Vénus devant le Soleil, le 6 juin 1761 et le 3 juin 1769, annoncé dès 1716 par Halley. Pour la première fois, de nombreux observateurs, dispersés sur la planète, peuvent observer en même temps la parallaxe du Soleil et calculer sa distance à la Terre. En 1769, des expéditions sont envoyées à Tahiti par l'Angleterre (au cours du premier voyage de Cook) et en Californie par la France (Jean Chappe d'Auteroche avec Jean-Dominique II Cassini). Auparavant, on a soigneusement préparé ces observations, qui vont servir aussi à déterminer les longitudes de tous ces observatoires improvisés, à condition que le ciel ne contrarie pas le projet au

jour J. Ainsi, Guillaume-Joseph Le Gentil de La Galaisière rate l'éclipse de 1761, suite à la prise de Pondichéry par les Anglais, puis celle de 1769... à cause d'un nuage fatal, en dépit de deux voyages de 30000 milles à chaque fois!

Il faut des lunettes de 10 à 12 pieds (3,90 mètres) de longueur pour bien observer les éclipses du premier satellite de Jupiter. Or, pour rendre de telles observations possibles sur un bâtiment en mouvement, des télescopes de 18 ou 20 pouces seraient nécessaires (soit environ 51 centimètres). Ils n'existent toujours pas à la fin des années 1760. L'optique fait pourtant des progrès sensibles. En 1757, John Dollond découvre la manière de composer des objectifs achromatiques. Débarrassés de leurs irisations, ils améliorent la précision des observations, en autorisant l'emploi de lunettes à courts foyers et à fort grossissement. Les Anglais restent les maîtres de cette invention au XVIII<sup>e</sup>

siècle, grâce au tour de main sans égal de leurs cristalleries. L'achromatisme permet aussi le remplacement des alidades (pièces mobiles) à pinnules par des lunettes sans aberration trop prononcée. Enfin, le développement de micromètres, depuis la fin du XVIIe siècle, offre une précision inconnue jusque-là, faute de pouvoir lire correctement les valeurs des mesures sur les limbes (arcs de cercles gradués).

Lors de l'expédition scientifique de la Flore en Atlantique (1771-1772), Jean-Charles de Borda, Alexandre-Gui Pingré et Jean-René de Verdun de La Crenne utilisent ainsi une nouvelle lunette due à l'astronome Alexis-Marie Rochon (1741-1817), qui ne mesure "que" trois pieds et demi (1,14 mètre quand même !), mais permet néanmoins d'observer des phénomènes célestes jusqu'ici réservés à des télescopes trois fois plus longs. Il reste à dompter les mouvements du navire. Pour cela, tout est bon ou presque. On conçoit ainsi des chaises marines, véritables balançoires, selon le montage à la cardan banalisé depuis. Leur usage reste cependant bien peu pratique pour observer le ciel. Malgré toutes ces tentatives, la méthode des éclipses est vouée à disparaître sur mer, parce que ces phénomènes ne sont évidemment pas assez fréquents pour les besoins d'une longitude pluriquotidienne. Sans attendre l'occurrence suivante, les navires voguent...

Beaucoup plus prometteuse est la renaissance des distances lunaires (lire encadré p. 63), théorisées dès le début du XVIe siècle. D'Après de Mannevillette est vraisemblablement le premier à s'en servir en navigation, dès 1749 ou 1750, en s'inspirant de Halley. Cependant, c'est l'astronome Nicolas-Louis de La Caille (1713-1762) qui en est l'un des principaux propagandistes. Il l'expérimente aux côtés de d'Après de Mannevillette, lors de leur voyage au cap de Bonne-Espérance et dans l'océan Indien (d'octobre 1750 à août 1752). En 1756, il en affirme la supériorité, après avoir émis l'idée d'un almanach comportant les données des distances lunaires.

Des éphémérides de qualité sont en effet indispensables pour viabiliser la méthode. Dressées en 1752 avec une approximation d'une minute, les tables de la Lune sont présentées en 1755 en Angleterre, et testées par le capitaine John Campbell, entre 1757 et 1759. Le Britannique Nevil Maskelyne (1732-1811) les emploie en 1761. En 1765, il devient astronome royal et publie l'année suivante le premier volume du Nautical Almanac (pour l'année 1767), dans lequel les distances angulaires entre la Lune et huit étoiles, dont le Soleil, sont données toutes les trois heures au méridien de Greenwich. Les Français l'utilisent aussitôt, jusqu'au moment où l'Académie de marine obtient de Joseph-Jérôme de Lalande (1732-1807) l'intégration de ces données anglaises dans l'édition de 1772 (pour l'année 1774) de la Connaissance des temps (ouvrage fondé en 1679). Six ans après The Nautical Almanac, on y trouve pour chaque jour du mois, et de trois heures en trois heures, la distance du centre de la Lune au centre du Soleil et aux plus brillantes étoiles.

Ces données ne sont mentionnées par rapport au méridien de Paris qu'à partir de 1786. Mais, les tables présentent des erreurs de distances entre les astres de 30 à 40 secondes d'angle, parfois de 60 secondes, lesquelles génèrent des erreurs de longitude de 15 à 30 minutes d'angle (une minute d'erreur sur la distance observée entre les astres produit une erreur de longitude de 30 minutes). En 1767, les nouvelles tables de la Lune de l'astronome allemand Johann Tobias Mayer sont reçues par Maskelyne, qui les édite en 1770. Elles sont plus précises que les précédentes. En France, il faudra attendre 1806 et la parution des éphémérides lunaires de Johann-Tobias Bürg, dans la Connaissance des temps, désormais publiée par le Bureau des longitudes (créé le 25 juin 1795).



Jean-Baptiste-Nicolas-Denis d'Après de Mannevillette (1707-1780) est le premier à se servir des distances lunaires en navigation, dès 1749-1750.

# Les distances lunaires

La distance des étoiles fixes entre elles est toujours la même. Celle de la plupart des planètes aux étoiles ne varie que très lentement. Astre le plus proche de la Terre, la Lune a un mouvement sensible par rapport aux étoiles et aux planètes, progressant de son diamètre chaque heure, soit 0,5 degré environ, et décrivant son parcours dans le ciel en 29 jours et demi. Le ciel peut donc servir d'horloge et le satellite de notre planète y faire office de grande aiguille, grâce à sa distance angulaire aux étoiles proches de sa trajectoire. Avec un sextant ou un cercle à réflexion, l'observateur mesure la distance angulaire d'une étoile à la Lune. Puis il consulte dans les éphémérides, où les distances entre la Lune et les principales étoiles sont calculées à l'avance de 3 heures en 3 heures pour le méridien origine (Paris ou Greenwich, ce dernier ne devenant l'unique méridien origine qu'en 1884).

Pour le jour de l'observation et l'étoile concernée (qui peut être le Soleil quand la Lune est visible en même temps), le navigateur recherche alors dans les tables la valeur de distance

JANVIER 1774. 13

DISTANCE DU CENTRE DE LA LUNE AU SOLEIL ET AUX ÉTOILES.

Jours.	Étoiles orient.	0 <sup>h</sup> 9' 16"	3 <sup>h</sup> 9' 16"	6 <sup>h</sup> 9' 16"	9 <sup>h</sup> 9' 16"
		D. M. S.	D. M. S.	D. M. S.	D. M. S.
1.	α μ	60. 20. 26	58. 46. 18	57. 12. 0	55. 37. 32
2.		47. 42. 33	46. 6. 59	44. 31. 13	42. 55. 16
3.		34. 52. 47	33. 15. 45	31. 38. 33	30. 1. 10
4.	α μ	67. 46. 1	66. 7. 35	64. 28. 55	62. 50. 1
5.		54. 32. 5	52. 51. 50	51. 11. 23	49. 30. 43
3.	☉	117. 28. 36	115. 58. 47	114. 28. 42	112. 58. 21
4.		105. 22. 31	103. 50. 33	102. 18. 16	100. 45. 43

La *Connaissance des temps* de 1774 est la première édition française comprenant les données anglaises toutes les trois heures, des distances de la Lune, ici aux étoiles Alpha et Mu d'une constellation orientale et au Soleil.

Ces tables disparaîtront de la *Connaissance des temps* en 1904, les chronomètres ayant triomphé des distances lunaires.

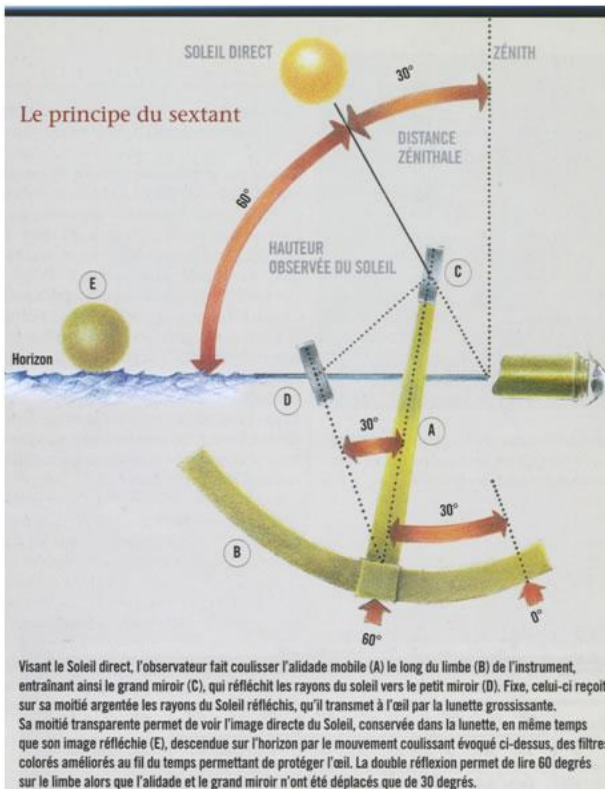
angulaire la plus proche de celle qu'il a lui-même mesurée. Par interpolation, il trouve l'heure à laquelle la Lune et l'étoile concernée étaient éloignées de cette même distance. Cette heure est celle du méridien origine, mais au moment de l'observation, puisque la distance entre la Lune et une étoile est une valeur absolue à un instant donné. En la comparant à l'heure locale

de l'observation (lire encadré page 58), le marin en déduit la longitude par conversion des heures, minutes et secondes de temps en degrés, minutes et secondes d'angle.

Cependant, l'une des principales difficultés réside dans la correction de l'observation. La réduction des distances lunaires consiste à corriger (on dit

réduire) les distances observées (ou distances apparentes des centres des deux astres) des effets de la réfraction et de la parallaxe. Des méthodes graphiques (abaques) de substitution sont ainsi envisagées, dans les années 1790-1805, et rendent les distances lunaires accessibles à la majorité des navigateurs, dans la première moitié du XIX<sup>e</sup> siècle. ■

Souvent supérieures à 90 degrés, les distances lunaires imposent des valeurs angulaires plus



importantes que les hauteurs d'astres et demandent des instruments capables de les mesurer. En conséquence, apparaît en 1757 le sextant de Campbell. Sa conception est totalement identique à celle de l'octant, mais avec un limbe élargi à 60 degrés (au lieu de 45 degrés pour l'octant), il est capable de relever des angles jusqu'à 120 degrés. En outre, cet appareil est bientôt équipé d'une lunette achromatique et d'un vernier. Il s'impose aux navigateurs éclairés du monde entier, dans les années 1770-1780. Sa fabrication fera d'énormes progrès au XIX<sup>e</sup> siècle

Conçu par le grand scientifique et marin Jean-Charles de Borda (1733-1799), en 1775, le cercle à réflexion est un instrument plus "pointu". Construit par Etienne Lenoir à partir de 1777, il fait appel au principe de la double réflexion et se révèle parfait pour les distances lunaires, grâce à sa capacité d'enregistrer des grandes valeurs angulaires avec précision, le limbe étant ici une circonférence complète (à la différence du



sextant ou de l'octant). Vers 1790, les meilleurs navigateurs français prennent ainsi l'habitude d'employer le cercle à réflexion pour les distances lunaires, réservant le sextant, de rayon plus important, pour les hauteurs d'astres.

Parmi toutes les méthodes explorées, des plus sérieuses aux plus farfelues, le transport de l'heure du méridien origine, pour la comparer à l'heure locale observée dans le ciel - principe auquel on travaille depuis le début du XVI<sup>e</sup> siècle - est celle qui s'inscrit comme la concurrente directe des distances lunaires. Il existe d'ailleurs en Europe de véritables lobbies, partisans de l'une ou de l'autre méthode. L'horlogerie est, de loin, la technique qui suscite le plus d'émulation, tout en mobilisant les plus gros enjeux économiques et la compétition internationale la plus vive, principalement entre l'Angleterre et la France. La perspective d'un nouveau marché pour les horlogers d'une part, et surtout, le progrès de la navigation, donc du commerce, d'autre part, en sont les moteurs. Universel, le problème de la longitude est l'une des questions scientifiques majeures du siècle des Lumières. Le prestige du pays qui le résoudra le premier sera d'autant plus grand et son avance technologique restera un atout.

Conçu par Borda en 1775, ce cercle à réflexion est construit par Étienne Lenoir (1777). Comme l'octant et le sextant, il utilise le principe de la double réflexion mais l'angle est mesuré entre deux alidades mobiles, sur le limbe qui est ici un cercle.



La motivation de cette effervescence est autant intellectuelle que matérielle. Des concours, dotés de prix considérables, sont organisés par les Etats. En 1714, sept ans après la perte d'une de ses flottes sur les îles Scilly, le gouvernement britannique offre ainsi une récompense de 10 000 livres pour la mise au point d'une méthode (pas forcément horlogère) capable de déterminer la longitude d'un navire à la mer, avec moins d'un degré d'erreur (un degré de longitude à l'équateur équivalant à un petit peu plus

de 60 milles).

Un Conseil de la longitude (Board of Longitude) est créé pour administrer ce prix. La somme est portée à 15 000 livres si l'approximation ne dépasse pas 40 minutes de longitude angulaire et à 20 000 livres (aujourd'hui, plusieurs millions d'euros) si elle est inférieure à 30 minutes. Selon les termes explicites de cette loi sur la longitude (Longitude Act), ces différentes valeurs doivent être avérées au terme d'une traversée entre la Grande-Bretagne et les Antilles, ce qui signifie implicitement après six semaines de mer. Or, le problème est loin d'être simple, tant la mise au point des horloges marines se heurte aux dérèglements rapides qu'induisent les chocs et les vibrations du navire, que ceux-ci soient dus aux tirs d'artillerie ou à l'état de la mer.

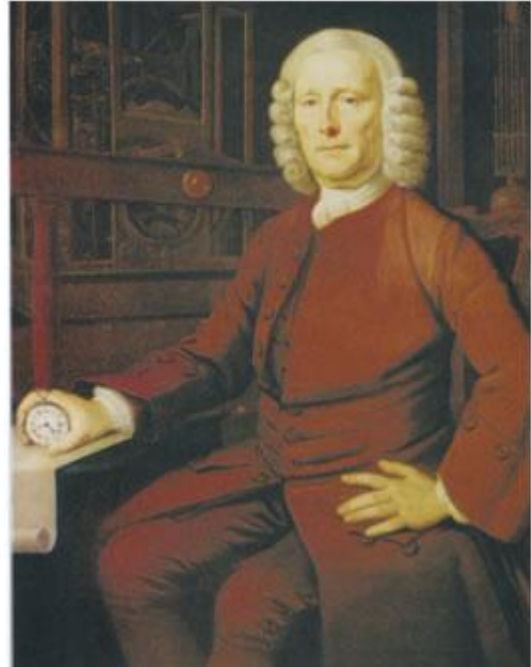
En 1761, avec son horloge marine n° 4, l'horloger anglais John Harrison (1693-1776) obtient pour la première fois un résultat concluant à la mer, la vérification étant refaite par son fils en 1764. Ce succès n'est pourtant pas reconnu, puisque l'année suivante, le Board of Longitude décide de n'accorder les 10 000 livres qu'à la condition d'une publication des principes de la montre. Harrison s'exécute en 1767. Son texte est immédiatement traduit, comme la plupart des ouvrages scientifiques et techniques

## Montre ou horloge ?

Au XVIII<sup>e</sup> siècle, les auteurs des sources originales eux-mêmes n'emploient pas toujours avec rigueur les termes appropriés. Il faut parler d' "horloge marine" pour une installation fixe à bord et de "montre marine" pour une pièce portative. L'une comme l'autre sont destinées à conserver l'heure du méridien origine, mais la seconde peut servir lors des observations sur le pont ou à terre. Ni l'une ni l'autre ne doivent être confondues avec une simple montre à secondes (de poche), destinée à comparer le temps de l'observation (sur le pont) à celui de l'horloge (sous le pont), et ne pouvant garder le temps que pendant six ou douze heures.

Au XIX<sup>e</sup> siècle, l'appellation d' "horloge marine" tend à disparaître et le mot "chronomètre" – *chronometer* en anglais, ou plutôt *time keeper*, soit le "garde-temps" français, expression en extinction depuis le XVIII<sup>e</sup> siècle – est de plus en plus employé, à la place de "montre marine", pour évoquer des instruments de qualité supérieure par la régularité de leur marche et leur miniaturisation. ■

publiés en Europe à cette époque. Méfiant, parce que victime de plusieurs tentatives de piratage, l'horloger n'y livre pas tous ses secrets de fabrication. Confirmant l'âpreté de cette compétition, la France tente à plusieurs reprises d'acheter



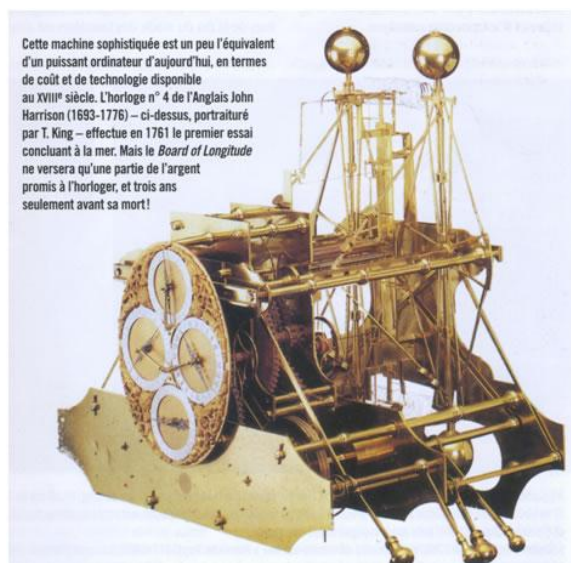
clandestinement la partie inédite de ses travaux, en vain.

La récompense du Board of Longitude est finalement assujettie à la réalisation d'autres montres, capables de donner la longitude à moins de 30 minutes de longitude angulaire, le gouvernement anglais étant très tôt conscient de l'importance de pouvoir disposer de copies fiables à bon

marché. Il faut attendre 1773 pour que John Harrison touche enfin une partie du prix. Seulement trois ans avant sa mort, au moment même où James Cook (1728-1779) réalise le premier tour du monde avec une montre marine (1772-1775), en l'occurrence une copie de la montre n° 4 d'Harrison, exécutée par Larcum Kendall, laquelle donne entière satisfaction.



D'origine suisse, Ferdinand Berthoud (1727-1807) est le plus prolifique des horlogers de marine en France dans le dernier quart du XVIII<sup>e</sup> siècle.



Cette machine sophistiquée est un peu l'équivalent d'un puissant ordinateur d'aujourd'hui, en termes de coût et de technologie disponible au XVIII<sup>e</sup> siècle. L'horloge n° 4 de l'Anglais John Harrison (1693-1776) – ci-dessus, portraituré par T. King – effectue en 1761 le premier essai concluant à la mer. Mais le Board of Longitude ne versera qu'une partie de l'argent promis à l'horloger, et trois ans seulement avant sa mort!

En France, l'Académie des sciences (Paris) et l'Académie de marine (Brest) jouent le rôle du Board of Longitude outre-Manche, avec moins d'argent à la clé. La période de probation des montres est de six semaines, une durée équivalente à la plupart des traversées océaniques les plus longues, si l'on excepte celles de la mer du Sud, nom du Pacifique austral au XVIIIe siècle. Comme pour le prix de 20 000 livres des Anglais, au terme de ces quarante-deux jours, le dérèglement de la montre ne doit pas excéder 2 minutes de temps, soit 30 minutes de longitude angulaire (un petit peu plus de 30 milles sur l'équateur).

L'horlogerie de marine française est alors l'objet d'une rivalité entre deux horlogers... d'origine suisse, Ferdinand Berthoud (1727-1807) et Pierre Le Roy (1717-1785). Berthoud publie son Essai sur l'horlogerie en 1763. Son horloge n° 3 est testée à la mer l'année suivante, lors du premier voy



age français de vérification des horloges marines. Alors qu'il reçoit le privilège exclusif de fournir la Marine française dès 1766, le test décisif pour son travail est effectué par Fleurieu en Atlantique Nord, sur l'Isis (1768-1769). Avec l'appui de ce dernier et grâce à son sens de la publicité, Berthoud s'impose.

Rival commercialement malheureux, Le Roy est pourtant l'inventeur de l'échappement libre et le

**A gauche : réalisée en 1775, l'horloge marine n° 11 de Ferdinand Berthoud mesure 87 cm de long, 51,50 cm de haut et 40 cm de large. Constituée d'acier, de laiton et de plomb, cette mécanique de haute précision, et d'immense valeur pour l'époque, est représentative des horloges qui seront confiées à Lapérouse (1785) et d'Entrecasteaux (1791) pour leurs voyages autour du monde.**

**A droite : construite en 1766, cette montre de marine est due à Pierre Le Roy (1717-1785), lui aussi d'origine suisse, inventeur de l'échappement libre et véritable technicien de la chronométrie française moderne. Son instrument en acier et en laiton, dans son coffret de bois, mesure 35 cm de long, 25 cm de haut et 25 cm de large.**

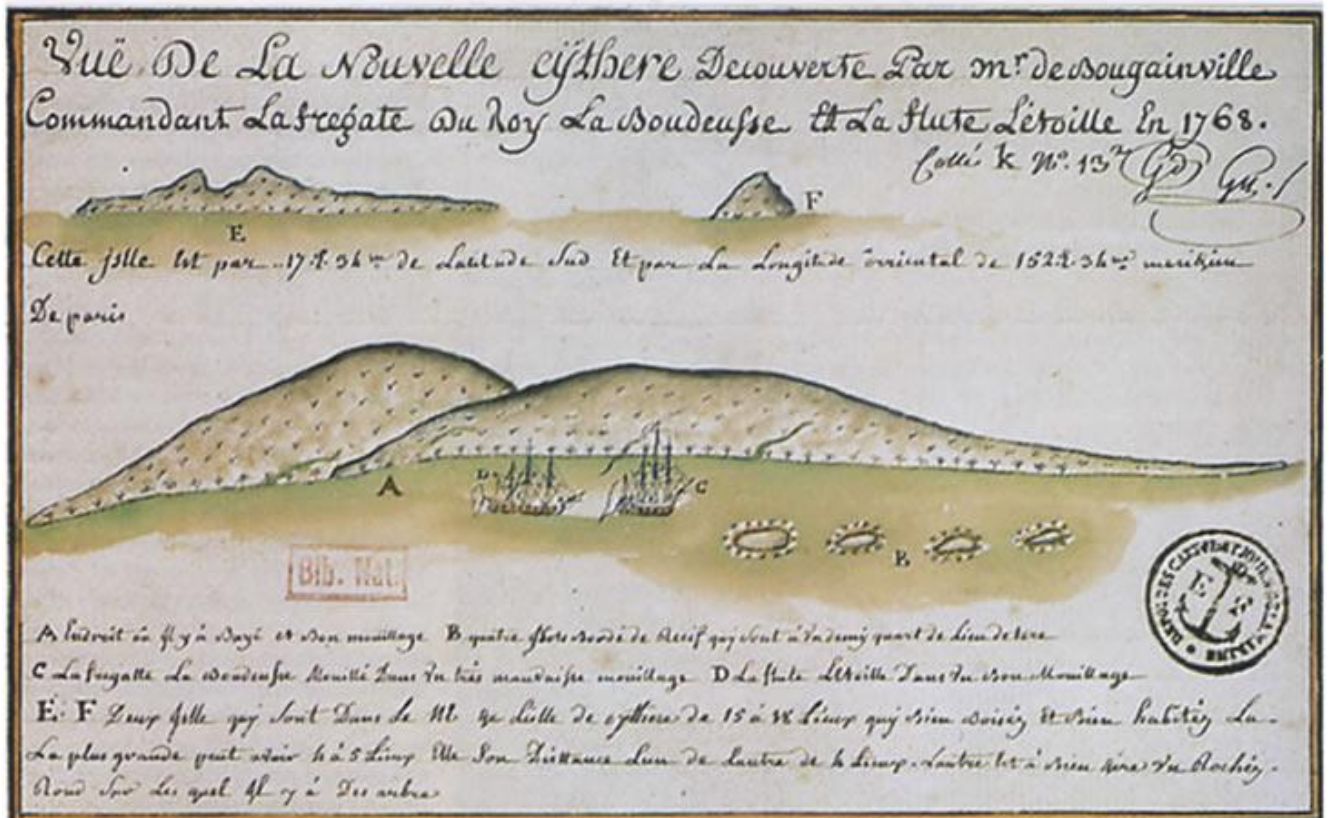
véritable technicien de la chronométrie française moderne. Mais la capacité de production plus importante de Berthoud est déterminante aux yeux de l'Etat, au moment où l'Angleterre affirme son hégémonie dans le domaine de l'horlogerie de marine, comme dans celui des instruments d'optique et d'astronomie nautique.

Ni Berthoud, ni aucun horloger français ne parviennent à mettre au point une montre suffisamment simple pour être reproduite en grande série à un prix réduit. Tel est le point faible de l'horlogerie française du XVIIIe siècle par rapport à son homologue britannique. La formation de nouveaux horlogers capables d'assumer une des technologies les plus pointues de la fin du siècle des Lumières est alors un problème majeur. Le gouvernement encourage donc Berthoud à publier de nombreux traités. Celui-ci s'affirme aussi comme un grand professeur d'horlogerie et un théoricien de la navigation avec les horloges, ce qu'il développe notamment dans Les Longitudes par la mesure du temps (1775), s'inspirant de Fleurieu, son maître en la matière.

Parmi toutes les démarches entreprises pour déterminer la longitude à la mer aux XVIIe et XVIIIe siècles, il en est deux qui s'imposent finalement, à partir de 1775. Les horloges apparaissent préférables pour les petites navigations et les périodes brèves, où les tables de la Lune ne

fournissent pas de données assez précises. En revanche, les distances lunaires sont à privilégier dans les voyages au long cours, où les horloges se dérèglent plus facilement. Mais les distances sont loin d'être utilisables en permanence. Durant le mois de mai 1768, l'expédition de Louis-Antoine de Bougainville (1729-1811) ne peut ainsi se livrer qu'à quatre observations de longitude en un mois, alors qu'elle approche de la Nouvelle-Guinée. En définitive, l'horlogerie de marine offre donc la seule méthode astronomique capable de fournir des longitudes à la mer, n'importe où et n'importe quand, à condition, bien sûr, que l'astre visé ne soit pas masqué par les nuages.

Dans la pratique, comme toujours en matière de navigation, il est prudent de multiplier les sources, donc d'utiliser les deux méthodes, ne serait-ce que pour contrôler la bonne marche des horloges avec les distances lunaires. Les grandes expéditions scientifiques, à la pointe de la technologie de l'époque, ne font pas autre chose. Dans sa dernière lettre à Fleurieu, datée de



Botany Bay (près de l'actuelle Sydney), le 7 février 1788, Jean-François de Lapérouse (1741-1788) écrit : "Il me suffira de vous dire que la combinaison de nos deux moyens, les observations de distances et les horloges marines, a complètement résolu le problème. Nous avons constamment navigué avec moins d'erreur en longitude qu'on n'en avait en latitude il y a dix ans lorsqu'on observait avec des octants de bois." Lapérouse confirme ainsi combien la navigation vient de connaître un bond considérable dans les années 1775-1780. Au moins pour l'élite des navigateurs à laquelle il appartient.

En 1785, lorsque son expédition quitte Brest, la précision atteinte par les grands observatoires européens est de 2 secondes d'angle en latitude et exceptionnellement de 15 secondes d'angle en longitude, avec les phénomènes les plus précis lors d'opérations à terre. Ces valeurs optimales fixent les limites de toutes les autres formes d'observations, en particulier nautiques. A la mer, les meilleurs navigateurs approchent alors leur latitude à une minute d'angle et leur longitude, par les distances lunaires, entre 15 et 30 minutes d'angle. De nos jours, la précision de la meilleure navigation astronomique est d'une minute d'angle, en longitude comme en latitude.

Encore rarissimes à bord des bâtiments marchands, les horloges marines sont alors très coûteuses et ne sont utilisées que pour des navigations exceptionnelles, à vocation hydrographique, scientifique ou militaire. Après la mort de Pierre-Louis Berthoud (1754-1813), neveu de Ferdinand, la Marine se fournit auprès d'Abraham-Louis Bréguet (1747-1823), puis de son fils, Louis-François Bréguet (1803-1883). Ces chronomètres restent encore assez précieux pour qu'un officier dont le

navire a chaviré en sautant entre ses dents ! Les Bréguet sont les premiers à introduire une véritable standardisation dans la fabrication de leurs montres, dont les pièces détachées sont interchangeables par un simple ouvrier qualifié, laissant ainsi le concepteur libre de travailler à ses recherches. Ils offrent à la France une véritable production de série, à partir de 1840. En 1832, la Marine possède un total de cent quarante-trois montres marines, ce nombre passant à trois cent soixante-six en novembre 1857, contre sept cent cinquante pour la Navy. Mais il faut attendre les années 1840-1850 pour que tous les bâtiments de guerre français soient dotés de chronomètres, qui restent encore très rares sur les navires de commerce.

Quant aux distances lunaires, elles ne sont réellement pratiquées que par cette même élite de la Marine d'Etat et par les meilleurs capitaines au long cours, autrement dit par ceux qui sont capables de faire les calculs élaborés qu'elles exigent. Mais la grande masse des personnes alors en charge de la navigation à bord des navires y est encore rétive. En 1799, à la veille de sa mort, Borda prononce un discours remarqué à l'Institut (créé le 22 août 1795, il a succédé à l'Académie des sciences) : "Il est temps que les marins cessent de regarder les sciences mathématiques et physiques comme inutiles à la pratique de la navigation et à ses progrès. Sans le secours des



Jean-François de Galaup de Lapérouse (1741-1788) est le premier Français à réaliser autour du monde une navigation astronomique moderne et très précise pour l'époque.

sciences, la marine serait encore dans l'enfance. C'est aux astronomes que les marins doivent les moyens d'observer leur latitude et leur longitude. Sans eux, il n'en eut même jamais été question. Non, il faut en convenir, il n'y a pas une seule découverte importante en ce genre qui appartienne à un navigateur considéré comme homme de mer."

Le constat est sévère, mais juste. Les marins aptes à calculer la longitude, à la fois par les distances lunaires et les montres marines, seraient alors moins d'une centaine dans notre pays ! Dans la première moitié du XIXe siècle, l'enjeu de la navigation astronomique est de s'imposer au plus grand nombre grâce à la mise au point de méthodes de calculs simplifiés. Tel est l'esprit de la suppression des pilotes hauturiers en 1791, et celui des nouveaux manuels de navigation qui privilégient l'autoévaluation. Le point parfait n'existant pas à la mer, mieux vaut apprendre aux navigateurs à faire la part des choses entre les erreurs acceptables et celles qui peuvent les envoyer à trépas...

Des méthodes graphiques permettent d'éviter de

Vue de côte réalisée par Charles Routier de Romainville lors du premier tour du monde officiel français, celui de Bougainville. En mai 1768, le navigateur n'avait pu se livrer qu'à quatre observations de longitude par les distances lunaires en un mois. Cette lacune sera bientôt comblée par l'avènement de l'horlogerie de marine, seule méthode astronomique capable de fournir des longitudes à la mer, n'importe où et n'importe quand, sauf nuage mal placé. Les grandes expéditions suivantes emporteront toutes des horloges et des montres.

fastidieux calculs dans la réduction des distances. L'avantage du procédé géométrique est évident pour bien des marins qui ne sont pas forcément familiers des mathématiques après leur examen, et qui n'ont pas nécessairement besoin de comprendre le pourquoi et le comment des opérations suivies. La méthode de Borda est ainsi reprise et simplifiée par l'Espagnol Josef de Mendoza y Rios, en 1797. La même année, Jacques-Rémi Maingon conçoit une carte trigonométrique de grande qualité dont le rôle est fondamental pour la vulgarisation des distances lunaires en France, dans la première moitié du XIXe siècle.

Cela n'empêche pas certains de lancer une mise en garde contre l'aspect "automatique" de ces procédés, assimilables à une forme de routine, toujours synonyme de danger lorsqu'elle s'installe sur un navire. Le débat est encore très actuel en navigation. Le GPS (Global Positioning System) donne aujourd'hui l'impression aux nouvelles générations qu'elles peuvent se dispenser de connaître les techniques traditionnelles. Jusqu'au jour où l'électronique tombe en panne... Les tables relatives aux distances lunaires ne disparaissent de la Connaissance des temps qu'en 1904

(Le Bureau des longitudes éditant aussi les Ephémérides nautiques depuis 1889), cette pratique étant restée en vogue sur la plupart des navires marchands jusque dans les années 1880-1885.

*Le 29 Décembre 1791 à 2h 41' nous avons fait les observations suivantes. Dix hauteurs du Soleil par le chronomètre par Beautemps-Beaupré ont donné pour distance moyenne 59° 29' 24"  
Dix hauteurs voisines du Soleil par M. de Borda. Moyenne 55° 38' 24"  
Dix hauteurs du Nord par M. de Borda. Moyenne 58° 45' 34"*

Pour les distances lunaires, la réduction de la distance apparente à la distance vraie est la phase la plus problématique. Si des formules graphiques sont mises au point, ce formulaire de Borda présente la méthode de calcul la plus simple. Le présent exemplaire est rempli par Beautemps-Beaupré (1766-1854), lors de l'expédition de d'Entrecasteaux, le 29 décembre 1791. Cette nouvelle méthode rend ce calcul - jusque-là le plus long et le plus pénible - aussi rapide que celui d'un angle horaire. Enfin, notez le calcul accélééré de l'heure locale sous le titre "Calcul de l'heure du lieu".

PRÉPARATION DU CALCUL.	RÉDUCTION DE LA DISTANCE APPARENTE A LA DISTANCE VRAIE, PAR M. DE BORDA.	
Latitude. 31° 31'	Dist. appar. 60° 4' 52"	
Heure app. du lieu 2h 30'	Haut. appar. 53° 50' 11" Ar. cos 0,2290795	
Long. estimée 18° 30'	Haut. appar. 58° 55' 31" Ar. cos 0,2872194	
Heure app. de Paris. 3h 44'	Somme 170,4754	
Demi-Diam. 16' 19"	Demi-Somme 86,2377	Cos 8,2985289
Demi-Diam. 15' 55"	Diff. à la dist. 26,24,55	Cos 9,3522988
Parall. Hor. 58' 17"	Haut. vraie 53° 49' 35"	Cos 9,17720572
Dist. obs. 60° 59' 24"	Haut. vraie 58° 45' 34"	Cos 9,7065323
Demi-Diam. 16' 19"	Somme 115 14 57	Somme 38,7444961
Demi-Diam. 15' 55"		Somme 38,7444961
Aug. du Diam. 16'	Demi-Somme 56-37	Cos 9,17404920
Dist. appar. 60° 59' 24"		Cos 9,17404920
Haut. obs. 53° 38' 24"	Log. Sinus de la Demi-Distance	3,6304344
Depres. de l'hor. - 4,32	Demi-Distance	29° 48' 41"
Demi-Diam. + 16' 19"	Distance corrigée	59° 57' 22"
Haut. appar. 53° 50' 11"		Log. 3 h. 4. 033424
Refr. & Parall. - 36	Diff. prises	Précédente 59° 59' 8"
Haut. vraie 53° 49' 35"	Diff. dans les Tables	Suivante 58° 45' 24"
Haut. obs. 53° 45' 24"		Log. 28. 14 Log. 80 45
Depres. de l'hor. - 4,32		Diff. 34' Compl. arit. 26 06
Demi-Diam. + 16' 19"		Log. de l'heure à aj. 5 239
Haut. appar. 58° 55' 31"		Heure 5 55' 52"
Réfraction 65' + 20' 31"		Heu. de la dist. pris. 31-0-0
Parallaxe		Heures de Paris lors de l'Observation. 3h 58' 51"
Haut. vraie 59° 25' 2"		
CONCLUSION DU CALCUL		CALCUL DE L'HEURE DU LIEU.
Heure de Paris 3h 58' 51"	Haut. vraie 53° 49' 35"	Diff. Polaire 65. 46 8 Ar. cos 0,060540
Heure du Vaisseau 2h 41' 17"	Latitude 31-31	Somme 151 - 6 48
Diff. en temps 1h 17' 34"	Demi-Somme 75-55-21	Cos 9,2962600
en Degrés 18° 5' 20"	moins la Haut. 21 45 46	Sin. 9,5654649
dans le Vaisseau est à l'Est de Paris.		Somme 9,747785
		Demi-Somme 9,373952
		Sinus 20° 9' 40"
		Multipliant par . . . . . 8
		On aura l'heure du Vaisseau 2h 41' 17"-20"
		DECLINAISON
		le . . . à midi
		le . . . à midi
		Diff. en 24 heures
		Paris prop. pour l'heure de Paris ou pour . . .
		Somme
		Dist. cherchée
		Dist. Polaire

*Calculé par Beautemps-Beaupré*

Elle est progressivement remplacée par la droite de hauteur. Celle-ci est inventée par hasard ou presque, une nuit de décembre 1837, par le capitaine américain Thomas H. Sumner, qui en publie le détail à Boston, en 1843. Ce principe qui refonde la navigation astronomique moderne est importé en France pour la première fois en 1847, mais n'est vraiment adopté que trente ans plus tard, grâce aux simplifications dues à Adolphe Marcq de Blond de Saint-Hilaire (1832-1889), qui présente sa technique du point rapproché (point observé) en 1873 et 1875. Selon cette méthode du "vertical estimé" - que les Anglo-Saxons nomment intercept et pour laquelle ils

développeront les fameuses tables HO, pendant la Seconde Guerre mondiale -, chaque droite de hauteur est le lieu géométrique de positions possibles, et les droites se coupent théoriquement en un même point, qui est la position.

A toute heure du jour (droite de hauteur de Soleil) ou de la nuit (droite de hauteur d'étoile), cette technique permet donc de recouper une droite avec la méridienne ou, si le ciel est bouché, avec une autre droite de hauteur d'astre prise à plusieurs heures d'intervalle. A condition de maîtriser l'estime entre ces deux instants et d'avoir une bonne montre marine à bord. Or, des chronomètres fiables, performants et à bien meilleur prix, sont enfin disponibles. Plus d'un siècle après la solution horlogère de la longitude, ce qui souligne le décalage entre les innovations techniques

développées par l'élite et leurs applications à la masse des navigateurs! Ironie de l'Histoire, l'arrivée des siGuerre mondiale, relativisera l'intérêt d'une montre capable de conserver l'heure sur une longue durée, puisqu'il sera alors possible de la recalcr quotidiennement.

Cet article est, pour l'essentiel, le fruit des recherches originales d'Olivier Chapuis, docteur en histoire, navigateur et journaliste à Voiles & voiliers. Il les a notamment exposées dans son livre A la mer comme au ciel: Beautemps-Beaupré et la naissance de l'hydrographie moderne ou L'émergence de la précision en navigation et dans la cartographie marine (1700-1850), Presses de l'université de Paris-Sorbonne, 1999 (1060 pages), primé en 2000 par l'Académie de marine et Grand Prix de la mer 2000 de l'Association des écrivains de langue française. Olivier Chapuis a publié un premier article dans Le Chasse-Marée n° 168, intitulé "Beautemps-Beaupré et la naissance de l'hydrographie moderne". Il est aussi le concepteur des images techniques réalisées par nos dessinateurs.

## **CHASSE-MARÉE 177 • 69**

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**Inséré le 05/07/12 News Nouvelles Enlevé le 05/08/12**

### **IMO's MSC ends a busy session (June 3 2012)**

At MSC 90, which concluded on 25th May, several amendments to SOLAS were adopted and the adoption and approval of other guidelines, codes and circulars, submitted by the IMO sub-committees were rubber stamped.

In another move, the MSC agreed Interim Guidance to private maritime security companies (PMSC) providing privately contracted armed security personnel (PCASP) on board vessels transiting the high-risk area (HRA) off the east coast of Africa.

The MSC adopted the following SOLAS amendments, which could effect the tanker sector, with expected entry into force on 1st January 2014:

- SOLAS regulation III/20.11.2 regarding the testing of free-fall lifeboats, to require that the operational testing of free-fall lifeboat release systems shall be performed either by free-fall launch with only the operating crew on board or by a simulated launching. A related circular encouraging early implementation of the amendment was also approved;
- SOLAS regulation V/14 on ships' manning, to require administrations, for every ship, to establish appropriate minimum safe manning levels following a transparent procedure, taking into account the guidance adopted by IMO (Assembly resolution A.1047(27) on principles of minimum safe manning); and issue an appropriate minimum safe manning document or equivalent as evidence of the minimum safe manning considered necessary;
- SOLAS chapter VI to add a new SOLAS regulation VI/5-2, to prohibit the blending of bulk liquid cargoes during the sea voyage and to prohibit production processes on board ships;
- SOLAS chapter XI-1 regulation XI-1/2 on enhanced surveys, to make mandatory the International Code on the Enhanced Programme of Inspections during Surveys of Bulk Carriers and Oil Tankers, 2011 (2011 ESP Code, resolution A.1049(27)).

The MSC also adopted amendments to regulation 47 of the International Convention on Load Lines (LL), 1966 and the 1988 LL Protocol, to move the Winter Seasonal Zone off the southern tip of Africa further southward by 50 miles.

The amendments to the 1988 LL Protocol are expected to enter into force on 1st January 2014 under the tacit acceptance procedure.

The amendments to the Convention, which require positive acceptance by two-thirds of contracting parties to enter into force, will now be submitted to the next session of the IMO Assembly for adoption, as required by the convention.

In addition, the MSC adopted amendments to the following codes, with expected entry into force on 1st January 2014:

- International Code for Fire Safety Systems (FSS Code), relating to fixed foam fire extinguishing systems; and automatic sprinkler, fire detection and fire alarm systems.
- International Maritime Dangerous Goods (IMDG) Code and supplements (amendment 36-12), including harmonisation of the code with the amendments to the UN recommendations on the transport of dangerous goods, 17th revised edition. Amendment 36-12 will enter into force on 1st January 2014, but contracting governments may apply the aforementioned amendments in whole or in part on a voluntary basis from 1st January 2013.

MSC was updated on developments in relation to the establishment and testing of LRIT Data Centres (DCs) and the operation of the LRIT system since its last session. It was informed that the International LRIT Data Exchange (IDE) had been fully operational at the European Maritime Safety Agency (EMSA) premises, in Lisbon (Portugal), since 18th October 2011. The offer of the EU states for the continued hosting, maintenance and operation of the IDE by EMSA, beyond 2013, at no cost either to the SOLAS contracting governments or to the IMO, was welcomed by the committee.

An overview of the IDE operations (status as at November 2011) showed that 66 LRIT Data Centres were connected to the IDE; 275,000 messages were processed per week by the IDE (30 messages/minute); 111 SOLAS contracting governments and overseas territories to which the 1974 SOLAS Convention has been extended and 325 Search and Rescue services were users of the IDE; and the average processing time per message was less than one second.

The MSC also welcomed the offer of the US to continue hosting, maintaining and operating the disaster recovery site of the IDE, beyond 2013, subject to their national procurement regulations, also at no cost, with the understanding that the US reserved the right to revisit the decision should the circumstances associated with the configuration and operation of the permanent IDE change in the future.

The committee adopted updated and amended performance standards for LRIT and approved a number of updated and amended circulars relating to LRIT operations.

A correspondence group on Goal-Based Standards was established to develop draft guidelines for the approval of equivalents and alternatives as provided for in various IMO instruments, and endorsed a work plan for the development of interim guidelines for the safety level approach.

A working group on goal-based standards will be established at MSC 91 to further consider matters related to the safety level approach and the draft guidelines to be developed by the correspondence group.

Many other matters were also considered, which were too numerous to mention here.

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**Inséré le 07/07/12 News Nouvelles Enlevé le 07/08/12**

## **Nog geen einde aan tarievenoorlog**

De tarieven in de Verre Oostentrade blijven dalen. Alphaliner voorspelt dat de concurrentie onder de rederijen ook in 2012 bikkelhard blijft.

Het gemiddelde tarief op de spotmarkt voor het vervoer van een 40' container van Shanghai naar Noord-Europa is sedert maart al 69% gedaald. Volgens de Franse consultant Alphaliner zullen de tarieven nog verder zakken.

Vorige week was dat al weer het geval. Volgens de Shanghai Containerised Freight Index (SCFI) werd op de spotmarkt een tarief van 1.298 dollar per veertig voeter all-in gevraagd, wat opnieuw 4,1% minder was dan de 1.354 dollar van de week ervoor. Volgens de World Container Index (WCI) die Drewry en Cleartrade samenstellen, wordt zelfs nog minder betaald. De WCI geeft voor de trade tussen het Verre Oosten en Noord-Europa nu een tarief van 1.256 dollar all-in voor een veertiger aan.



Het lijkt zelfmoord dat de rederijen all-in tarieven hanteren die lager zijn dan hun eigen brandstofkosten. Dat betekent in principe dat de basisvracht negatief is. Eerder onderzoek van Alphaliner wees echter uit dat de bunkertoeslagen ruim berekend worden, zodat de rederijen er in de praktijk eigenlijk nog wat aan overhouden.

Bij schepen van 13.000 teu die 63 dagen over een rondreis tussen het Verre Oosten en Noord-Europa doen, bedragen de brandstofkosten volgens de Franse consultant 460 dollar per teu (dus 920 dollar voor een 40' container). Die berekening is gebaseerd op een bunkerprijs van 650 dollar per ton.

Hoe kleiner de schepen, hoe minder containers om de bunkerkosten over te verdelen. Bij een schip van 8.500 teu zijn de brandstofkosten al 540 dollar per teu. Rederijen die ultra large container ships (ulcs) inzetten, kunnen zich dus lagere tarieven veroorloven. De totale kostprijs per slot van een schip van 13.000 teu is volgens Alphaliner 200 dollar per teu lager dan die van een half zo groot containerschip van 6.500 teu.

## Schepen vullen

Om te genieten van schaalvoordelen moeten de rederijen hun ulcs wel volledig vullen. Een aantal kleinere rederijen beschuldigt de drie grootste carriers (Maersk, MSC en CMA CGM) ervan een tarievenoorlog uit te vechten om marktaandeel te winnen en hun schepen op die manier vol te krijgen.

Rederijen die kleinere tonnages inzetten, kunnen amper nog concurreren. Volgens Alphaliner kunnen schepen met een capaciteit van minder dan 8.000 teu op dit vaargebied nu niks meer opbrengen.

**IEDEREEN TRAGER**  
Om de kosten zoveel mogelijk te drukken, zijn alle rederijen trager gaan varen. Terwijl er vier jaar geleden nog 26 van de toen 36 wekelijkse diensten tussen het Verre Oosten en Noord-Europa met acht schepen of minder werden verzekerd, kiest een meerderheid van de rederijen nu voor een vloot van tien schepen per dienst. Het gaat om 17 van de 30 loops. Zeven andere containerdiensten worden verzorgd door elf of meer schepen. Er blijven slechts zes loops over met negen eenheden die een totale rondreis dus in 63 dagen maken. Het gemiddelde bedraagt nu 9,7 schepen per loop. In 2007 was dat nog 8,2 boten per dienst.

Om een einde te kunnen maken aan de tarievenoorlog, moet er veel capaciteit uit de markt worden gehaald. Dat is dit jaar tot dusver amper gebeurd. Medio dit jaar werden slechts twee wekelijkse diensten met relatief kleine schepen gestaakt. Het gaat om de Far East Europe Service van het Aziatische redersduo PIL/Wan Hai en de NE5-loop van de CKYH Green Alliance. Die twee diensten vertegenwoordigden slechts 3,5% van de totale capaciteit op het vaargebied.

Door de komst van nieuwe grote schepen is de capaciteit op de route intussen 7% groter dan vorig jaar. Om te kunnen blijven concurreren, zetten de rederijen steeds grotere eenheden in. APL zal vanaf december een reeks nieuwe eenheden van 10.070 teu in de vaart nemen, die meer dan waarschijnlijk gebruikt zullen worden om schepen van 6.350 teu te vervangen.

Het is afwachten of de rederijen hun aanbod tijdens de kalmere wintermaanden zullen aanpassen. Gesprekken tussen de Grand Alliance en de New World Alliance over een tijdelijke samenvoeging van twee loops, zijn al mislukt. Beide allianties zullen de komende weken wel systematisch een aantal afvaarten annuleren omdat er minder lading is. De Grand Alliance zal dit

doen met de D-loop, waarin de kleinste schepen varen.

Omdat er de komende vijftien maanden nog zestig nieuwe eenheden van meer dan 10.000 teu in de vaart komen, voorspelt Alphaliner dat de concurrentie onder de rederijen ook in 2012 bikkelhard blijven.

Stefan Verberckmoes

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Inséré le 09/07/12 OPEN FORUM Enlevé le 09/08/12

## SAFETY ALERT - LIFEBOAT RELEASE MECHANISMS

January 27, 2004 Washington, DC

### POTENTIAL SERIOUS SAFETY HAZARD NORSAFE CAMSAFE LIFEBOAT RELEASE MECHANISMS

Recently a NORSAFE Miriam 8.5 meter lifeboat equipped with NORSAFE Camsafe release mechanism fell from a semisubmersible mobile offshore drilling unit during initial preparation for sea trials. While the lifeboat was being recovered and raised to its stowage position, the aft hook unexpectedly released at a height of about 70 feet, followed by the disengagement of the forward hook as it took the full load of the boat. The boat tumbled and fell to the water landing upside down, causing one fatality and injuring two other crewmen.

The NORSAFE Camsafe release mechanism became available in 2000. It is not Coast Guard approved, however, it may be fitted on some NORSAFE lifeboats accepted by the Coast Guard based on Norwegian approval.



After the accident the release mechanism control lever was found in the locked position inside the boat, but it is apparent that the hook itself was not fully engaged with the cam inside the release mechanism. Subsequent investigation found that the release mechanism control lever could be placed in the locked position even though the locking cam had not properly engaged the hook. In this condition, the mechanism can appear upon casual examination to be locked and, due to the design and roughness of the hook and cam surfaces, it could bear a significant load. However, the hook can in fact release at any time without warning.

Satisfactory engagement and locking of the



release device is dependent upon successful mating between the male and female portions of the cam and hook, respectively, as shown in the following drawing.

When properly engaged, the seam between the edges of the mating components will be clearly visible in the inspection window located on one side of the release mechanism. Observation of the components within this window will enable confirmation of complete cam-to-hook engagement and look as depicted on the right.

It is important to note that this window is impossible to see from inside the lifeboat and the associated lifeboat and release mechanism manuals are not clear on what the viewer should look for to ensure proper engagement.

The casualty investigation is not complete. Additional recommendations are likely to follow. In the interim the Coast Guard strongly recommends:

- That only those launching and recovery operations that are absolutely necessary should be carried out with lifeboats having the Camsafe release mechanisms.
- Prior to launching the lifeboat, proper cam engagement must be verified as well as each time the boat is lifted for recovery operations.

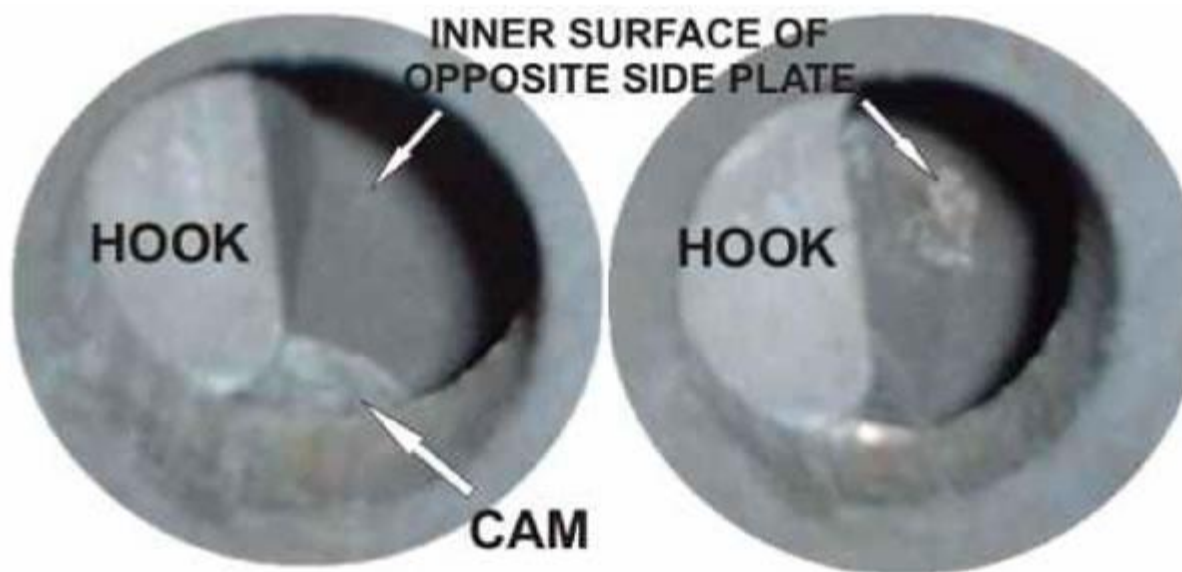
## Verification Procedure

All ships with NORSAFE lifeboats should be inspected immediately to determine whether they are fitted with Camsafe release mechanisms. Lifeboats fitted with Camsafe release mechanisms should be examined as described below.

- 1 . With the lifeboat in the STOWED position, and MAINTENANCE PENDANTS FITTED, check the inspection window of the hook (which may be outboard) to determine whether the cam and hook are completely engaged.
- 2 . A properly engaged cam and hook will look like this:



3. An improperly engaged hook and cam may look like this:



IMPORTANT - The inside surface of the opposite side plate (or half) of the release mechanism will be visible, unless a significant portion of the hook is out side the side plates.

- 4. If the cam and hook are not completely engaged, the load of the boat must be temporarily transferred from the release mechanism and on to the maintenance pendants. Next the release lever at the helmsman's station is reset while the hook is pushed into place by hand to ensure the cam and hook are completely engaged. The load may then be returned to the release mechanism after confirming complete cam engagement through the inspection window. With the cam and hook completely engaged, the release mechanism is safe to use. However, until the investigation has been completed, and the need for corrective measures for the Camsafe release mechanism and/or installation has been determined, **ONLY THOSE LAUNCHING AND RECOVERY OPERATIONS THAT ARE ABSOLUTELY NECESSARY SHOULD BE CARRIED OUT**, with lifeboats having the Camsafe release mechanisms. Questions regarding this information and reports of any Camsafe release mechanisms found not completely engaged may be addressed to Kurt Heinz of the Coast Guard's Life Saving and Fire Safety Division at (202) 372-1385 or [Kurt.J.Heinz@uscg.mil](mailto:Kurt.J.Heinz@uscg.mil).

NOTE - On January 29, 2004 additional information relating to this safety alert was distributed as follows:

#### LIFEBOAT RELEASE MECHANISMS

Based on comments and questions on the recent January 27, 2004 Lifeboat Release Mechanism Safety Alert, the Coast Guard is providing the following clarification regarding access to the Camsafe inspection window, resetting procedures, and the safety of other release mechanism designs.

- The Camsafe (7T) inspection window is impossible to see from inside the Norsafe, Miriam lifeboat and therefore the crewmember must either crawl out the hatch near the release mechanism or use the side hatch to go around the outside of the boat to check the window.
- The associated lifeboat and release mechanism manuals differ and are not clear on what the crewmember should look for to ensure proper engagement. (See detailed description and photographs in the previous message.) The release mechanism manual is less detailed than the lifeboat manual, but neither makes it clear that, to ensure complete engagement of the hook and cam, the crewmember at the release mechanism must push on the hook tail while the helmsman closes the release lever.

- The posted instructions within the lifeboat do not completely cover all the required steps to safely recover the lifeboat.
- The use of the seat harness while raising the lifeboat might have prevented the fatality and is recommended anytime the lifeboat is raised or lowered.

There have been a number of casualties associated with recovery of lifeboats and the testing of their release mechanisms, and it is currently the subject of study and discussions within the International Maritime Organization (IMO).



The Coast Guard emphasizes that while lifeboat release mechanisms are required by IMO regulations to be protected against accidental or premature release when under load, the methods and effectiveness of protection vary with different manufacturers' designs. Accidents can occur with most designs if they are not used properly.

Mariners must never assume that any release mechanism will work like the one on their last ship -- study how each mechanism works and practice with it.

Questions regarding this information may be addressed to Kurt Heinz of the Coast Guard's Life Saving and Fire Safety Division at (202) 372-1385 or [Kurt.J.Heinz@uscg.mil](mailto:Kurt.J.Heinz@uscg.mil).

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## **Bulk matters**

**A focus on some of the issues surrounding the carriage of bulk cargo in the P&I world**

**Hold cleaning –preparing a ship for grain**



### **Surveyors inspection/ requirements**

Prior to loading grain, all ships are usually subject to a survey by an approved independent surveyor. The surveyor will require the vessels particulars and details of at least the last three cargoes carried. He will then inspect the holds for cleanliness and infestation, or the presence of any material which could lead to infestation. When the surveyor is satisfied with the condition of the hold, he will issue the ship with a certificate stating which holds are fit to load grain.

### **Purpose:**

To ensure cargo holds are prepared to receive the next cargo.

Large claims have arisen when cargo holds have not been cleaned sufficiently to prevent cargo contamination.

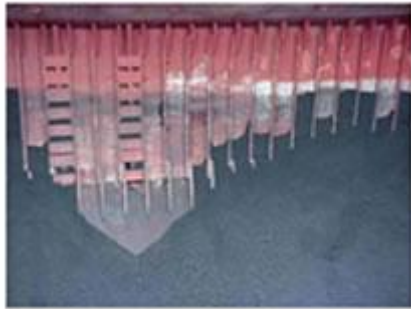
The requirements for cleaning the holds are dependent upon the previous cargo carried, the next

cargo to be carried, charterers' requirements, the requirements of shippers and/or the authorities at the port of loading and the receivers.

It is becoming common practice for receivers to have an inspector at the load port.

## General

Regardless of the previous cargo, all holds should be thoroughly cleaned by sweeping, scraping and high-pressure sea water washing to remove all previous cargo residues and any loose scale or paint, paying particular attention to any that may be trapped behind beams, ledges, pipe guards, or other fittings in the holds.



If the ship has been carrying DRI (direct reduced iron), the dust created by this particular cargo during loading or discharging, will be carried to all areas of the ship's structure and the reaction between iron, oxygen and salt will create an aggressive effect wherever the dust may settle. This is particularly noticeable on painted superstructures. (The IMO Bulk Cargo Code contains guidelines).

Whenever salt water washing is used to clean hatches, the relevant holds should always be rinsed with fresh water to minimise the effects of corrosion and to prevent salt

contamination of future cargoes. In this respect, arrangements should be made in good time to ensure sufficient fresh water is available for this operation.

Before undertaking a fresh water rinse, the supply line (normally the deck fire main or similar) will need to be flushed through to remove any residual salt water. Accordingly, it is suggested that fresh water rinsing of the holds is left until the end of hold cleaning operations to minimise the amount of fresh water required.

## Grain preparation and safe carriage



One of the most difficult hold cleaning tasks is to prepare a ship for a grain cargo after discharging a dirty or dusty cargo such as coal or iron ore, particularly if the last cargo has left 'oily' stains on the paintwork or other deposits stubbornly adhering to the steel surfaces. Greasy deposits which remain on the bulkheads will require a 'degreasing chemical wash' and a fresh water rinse in order to pass a grain inspection. The degreasing chemical used should be environmentally acceptable for marine use, and safe to apply by ship's staff, who have had no special training and do not require any specialised protective equipment. Product safety data sheets of the chemical should be read, understood and followed by

all persons involved with the environmentally friendly degreasing chemical.



To avoid taint problems, fresh paint should not be used in the holds or under the hatch lids at anytime during the hold preparation, unless there is sufficient time for the paint to cure and be free of odour as per the manufacturer's instructions. Most marine coatings require at least seven days for the paint to be fully cured and odour free. All paint used in the holds and underside of the hatchcovers should be certified grain compatible and a certificate confirming this should be available onboard. Freshly painted hatches or hatchcovers will normally result in instant failure during the grain inspection, unless the paint has had time to cure

Processed grains or grain cargoes that are highly susceptible to discolouration and taint should only be stowed in holds that have the paint covering intact. It is important that there is no bare steel, rust, scale, or any rust staining in the hold. Dependent upon the quality of the grain to be carried, the charterer may require the holds to be fumigated. This may be accomplished on passage with

fumigant tablets introduced into the cargo on completion of loading. Fumigation can also be undertaken at the port of loading (or occasionally discharge). The ship will normally be advised how the fumigation is to be carried out and of any special precautions that will have to be taken.



In all cases, the preparations (i.e. inspecting the holds and hatchcovers for gas-tight integrity) and fumigation must be carried out in accordance with the IMO document Recommendation on the Safe Use of Pesticides on Ships. Gas-detectors and proper personal protective equipment should be available and relevant ship's officers should receive appropriate training in their use. After introduction of the fumigant, an appropriate period should be allowed (normally 12 hours) for the gas to build up sufficient pressure so that any leaks can be detected: the vessel must not depart from port before this period has expired. The entire process should be certified by a qualified fumigator. The holds must not be ventilated until

the minimum fumigation period has expired, and care must be taken to ensure that subsequent ventilation does not endanger the crew.

### **Alongside the discharge port**

Shore bulldozer/cocoa beans and shore personnel cleaning holds



On non-working hatches, remove all cargo remnants, loose scale and flaking paint from the underside of the hatch lids and from all steelwork within the hold, provided safe access can be obtained. Then commence washing the underside of the hatchcovers using liquid soap (such as teepol), followed by a fresh water rinse with a high-pressure water gun.

The hatch rubber seals should also be washed to remove cargo grime.

However, caution is required to ensure that the hatch rubber seals

are not damaged by the high pressure from the fresh water gun.

After washing, depending on weather conditions, cargo dust may lightly contaminate the underside of the hatch lids; however, the dust particles can easily be removed at a later date using a high-pressure portable fresh water gun.



A good working relationship with the stevedores will probably assist the removal of cargo remains from all of the holds using the shore crane or other cargo-handling facilities, which will avoid lengthy difficulties for ships staff during the ballast voyage.

The bilges and strums of the ballast hold should be thoroughly cleaned and all traces of previous cargo



removed. The bilge suctions should be tested and confirmed as clear prior to any washing out of the cargo holds and the bilge spaces pumped out and secured with the bilge blanks.

To prevent ballast water ingress into the bilge area, it is essential that the rubber joint/gasket is in good condition and all the bilge-blank securing bolts are fitted tightly. The un-seamanlike practice of securing the bilge blank with four bolts is unacceptable and may result in pressurising the bilge line. This must be avoided.

## Hatchcovers

Illustrated, from top: Discharging soya meal; tapioca cargo sticking and; cargo hold after discharging minerals



Prior to closing the hatchcovers, all the hatch track-ways should be swept clean, then carefully hosed down. If a compressed air gun is used, it should be used with

caution and suitable safety equipment should be worn to ensure both face and body protection.

Scupper plug fitted



All hatch corner drains, including the non return valves, should be proven clean and clear. The blanking caps on the hatch corner drains, used to ensure hold airtightness should be attached by a chain to the drain. These blanking caps or plugs are provided if the drains do not have an approved automatic means of preventing water ingress into the hold.

If time permits, when the cargo has been discharged from respective hatches, all inner hatch coamings' should be teepol washed

and fresh water rinsed with the fresh water high-pressure gun because it is more convenient to wash this area in port rather than at sea. If permitted by the port authority, all hatch tops should be dock water washed, ensuring that cargo remains are retained onboard and not washed into the dock. The fitting of plugs to all deck scuppers should help prevent any pollution claims alongside. after clearing the port of discharge, mindful of pollution from the cargo remains.

Coaming/trackway covered in fertiliser; below, ship's main deck covered by previous cargo



Prior to the commencement of the hold-cleaning, a quick safety pre-brief meeting should take place, which should include all the personnel who will be involved in the hold cleaning. During the pre-brief the hold-cleaning schedule should be discussed and the equipment and chemicals to be used must be fully explained and the safety data sheets understood by all involved. Basic safety routines should be established and the wearing of suitable attire throughout the hold cleaning must be of paramount importance.

It is essential that permission is given by the port authority for this washing operation.

Under normal circumstances, when it rains during cargo operations, discoloured water from the decks will flow into the dock and this is normally accepted by the port authority. The washing of cargo debris into the dock is not acceptable.

In some loading ports, where helicopter operations are used for embarking and disembarking the pilot, it is a normal requirement of the port to wash down the helicopter area and at least one hatch length either side of the helicopter area, always ensuring that cargo debris is not washed into the dock.

### **Preparation at sea**

To prevent cargo debris from the main deck being walked into the accommodation and tramped into freshly washed cargo holds, wash down the main decks and accommodation block as soon as possible.

The wearing of oilskins, safety shoes/safety seaboots, eye protection, hand protection and safety helmets complete with a chin strap, should be made mandatory during the hold cleaning process. The wearing of high visibility waistcoats will help to improve safety in the hold. The 'permit to work' should be completed on a daily basis, as this will help reduce the risk of accidents.

### **Hold cleaning**

Hold suction arrangement and filter



Prior to high pressure hold washing, excess cargo residue on the tank top should be removed by hand sweeping and lifted out of the holds via the use of a portable mucking winch. As explained earlier, a good working relationship with the stevedores at the discharge port may help to expedite this operation.

After all excessive cargo residue has been removed then the holds can be washed with salt water using a high-pressure hold cleaning gun, supplemented by the deck air line to provide increased pressure. This is

the most commonly used method of hold cleaning, however the hold cleaning gun normally requires two seamen to safely control the increased water pressure. Some ships are fitted with fixed hold cleaning equipment, normally fitted under the hatchcovers. This method of hold cleaning is less labour intensive.

Crew operating a Toby gun



Fixed hold cleaning gun under hatch lids and fixed hold cleaning connection on deck



A flexible high-pressure hose is connected between a flange on the hatchcover and the deck high-pressure hold washing line.

Other ships have permanent high-pressure hold cleaning equipment that can be lowered through a flange on the main deck, turned ninety degrees and bolted to the high-pressure deck wash service line. All cargo residues washed down must be removed via the hold eductors or mucking winch. Special attention should be

given to cargo residues wedged behind pipe brackets, hold ladders, and on the under-deck girders and transversals. Special attention should be paid to ventilators to ensure that remnants of previous cargo have been removed and the area is grain clean. Binoculars are quite useful for spotting cargo remains in high places. Hold bilges and recessed hatboxes should be cleaned out and all cargo remains removed.



Bilge suctions must be tested both before and after washing and the results entered in the cargo notebook and/or deck log book.

### **Salt water chemical wash and hand scraping**

To remove any greasy deposits from the hold steelwork, all the holds should be high-pressure chemical washed using the hold cleaning gun complete with air line booster. The degreasing chemical used, as previously advised, should be environmentally acceptable for marine use, and safe to apply by ships staff, who have had no special training and do not require any specialised protective equipment.

Numerous degreasing chemicals are available (eg. Sea Shield detergent) and work quite effectively, if they are directly injected into the firemain via the general service pump strainer cover. Manufacturer's instructions must always be followed, but in general the recommended chemical injection rate is approx. 5 litres/min.

A typical 110,000 dwt bulker will require around 100 litres per hold, or 25 litres of degreasing chemical on each bulkhead.

To avoid long lengths of hose delivering chemical, the chemical station should be situated as close as possible to the injection point of the fire and GS pump. The easiest way to control the rate of chemical flow is by fitting a temporary small hand operated valve on top of the strainer cover. An alternative method is to use an eductor system to suck the chemical direct from the drum into the discharge nozzle. The quantity of chemical introduced is controlled by the operator or an assistant, lifting the nozzle clear of the drum. However, this method of educting the chemical from the drum into the discharge nozzle is time consuming and more awkward for the operator and restricts his movement around the hold. In addition it carries a greater risk of an accident or spillage of degreasing chemical because the chemical drums have to be lowered into each and every hold, whereas the first method allows all the degreasing chemical to be situated at one place i.e. by the GS pump.

Hold cleaning equipment in the stowed position above the deck. Note the flange on the deck wash line



One degreasing chemical injection station used successfully aboard a vessel consisted of: a transparent container of 120-litre capacity, graduated in 10 litre units; a 5 metre transparent length of reinforced hose with one end fitted with a 40cm long steel uptake branch pipe and the other end open. The branch pipe was inserted into the chemical container and the open end of the transparent reinforced pipe was connected to the hand valve on the pump strainer cover using two jubilee clips. The small hand valve on the strainer cover was used to control the flow of chemical into the fire pump.

Prior to starting the high-pressure sea water chemical wash, all fire hydrants and anchor wash hydrants on deck should be checked and confirmed as fully closed. The hydrant serving the hold cleaning gun should be opened and the fire and GS pump started.

To avoid unnecessary chemical waste, predetermined times of injecting the chemical into the fire main should be agreed between the hold cleaning party and the person controlling the rate of chemical injection. On a 110,000 dwt

bulker it takes approx. 20 minutes to complete a chemical wash in each hatch, after which the chemical should be washed off using high-pressure salt water. Concurrent with the chemical wash the hold should be hand scraped with sharp long handled steel scrapers. All loose scale and flaking paint must be removed.

### **Fresh water rinse and hold preparation**

The final stage of hold washing is the fresh water rinse. A ship preparing for a grain cargo would be advised to carry additional fresh water in a convenient tank. This is often the after peak, which can be pumped into the fire main via a GS pump. A typical 110,000 dwt bulk carrier will require around

30 tonnes of fresh water per hatch. Prior to commencing the fresh water rinse, the fire line is flushed through with the after peak fresh water to remove all traces of salt water. If a GS pump is used, the flushing through takes a few minutes and only uses a few tonnes of fresh water. Once the fire main is clear of salt, all deck fire hydrants and anchor washers should be sighted and confirmed that they are closed.

If a GS pump is to be used for the hold rinse, to prevent possible pump damage, a return line into the after peak should be set up using a hose connected from the fire main into the after peak vent.

Holds drying after washing



On completion of the hold fresh water rinse, all hatch entrances, hatch trunkings and hand ladders should be hand washed and fresh water rinsed using the fresh water high-pressure gun. It is not advisable to rinse and clean the access ladders and hatches before washing the main hold, because splashing from the hold bulkheads will often contaminate the freshly washed ladders. Bulkheads either side of all the hand ladders should be hand cleaned and jet washed as far as one can safely reach, using long handled turks heads. Safety body harnesses and (if required) a bosun's chair should be used when undertaking this task.

When it is safe to open the hatches, all the hatch coamings should be hand washed using long handled turks heads and jet washed with fresh water using the high-pressure fresh water gun. With the hatch lids open, binoculars should be used to sight the holds for any cargo remains.

To prevent possible condensation in the hold, all the recessed hold eductors (if fitted) must be drained of any water residue, be clean dry and odourless. There is usually a small stainless steel drain plug on the underside of the eductor which can be temporarily removed to allow the eductor water to drain into the bilge area. When the eductor is empty the drain plug must be replaced and secured. The eductor hold plate must be secured with all the securing bolts and duct tape should be used to cover both the securing bolts and recessed lid handles.

Hold bilges should be completely dried out, odourless and in a fully operating condition. The surveyor will usually require to sight one bilge in each hold to ensure that they have been cleaned out correctly.

The tank top must be completely dry and any indentations on the tank top must be wiped dry. The hold should be made completely odourless, by maximising hold ventilation. Two layers of clean hessian cloth should be fitted to the bilge strainer plate to further restrict cargo particles entering the bilge area. Duct tape is used to cover the small gap between the bilge strainer and tank top. The hold hydrant area, if fitted, should be cleaned and dried out. The steel cover refitted and secured in place with all its bolts/screws.

### **Hatch undersides**

When it is safe to open the hatches all the hatchcover undersides should be hand washed and fresh water jet washed using the high-pressure fresh water gun. If all the hatchcover undersides were hand cleaned at the discharge port, this operation will be completed very quickly and a high-pressure jet wash may suffice.

All loose scale and any flaking paint from the hatchcover undersides must be removed. All ledges on the hatch undersides must be checked to see that they are clean. All hatch rubbers and centre line drain channels should be clean and clear of any cargo remains or other debris.

### **Hatch watertight integrity**

To prevent cargo claims due to water ingress, all hatch seals (both longitudinal and transverse), hold access lids and seals around the hatch sides should be chalk marked and water tested using deck wash hoses.

Hose testing and ultrasonic hatch testing for leaks



A more accurate method of testing a hatch for leakage is to use ultrasonic equipment. However this is usually completed by shore personnel who are trained in the use of this equipment.

Poor practice: hatch tape used to build up cross joints. This is discouraged



Faulty or suspect sections of hatch rubber should be replaced in their entirety; localised replacement or 'building up' of hatch rubbers using sealing tape is discouraged.

### **Grain inspection**

Prior to the grain inspection all hatches and access lids must be open and safely secured with all locking pins/ bars.

All hatches should be checked for loose scale or flaking paint. Invariably there will be a little scale on the tank top, which can quickly be removed. If weather conditions permit during the day, the holds should be opened to allow fresh air to assist the hold drying process. All small pools of water

should be mopped dry. All hatch rubbers and centre line seals should be wiped over with a clean dry rag to confirm their cleanliness.

Prior to the inspection, ships staff should lower into the first hold an aluminium ladder together with a small number of clean brooms, scrapers, dustpan and brush, a clean bucket and a few clean white rags. If possible the second hold to be inspected should also be equipped with similar items.

The first team to enter the open hold should comprise the grain inspector, a deck officer and a seaman. Under no circumstances should grain inspectors be allowed to inspect the hatches unescorted by a deck officer.

A second team consisting of a deck officer and some crewmembers should be standing by at the top of the hatch being inspected. The second team should have available additional clean brooms, clean mops, scrapers, buckets, clean heaving lines and clean white rags.

The engineers should be on standby to test the bilges (dry sucking only).

Radio contact is essential between all three teams to prevent lengthy delays.

Any personnel entering the holds should have clean safety shoes or clean safety sea boots. It is essential that any debris on the main deck is not walked into the clean holds. Some ships issue overshoes to personnel entering the hold.

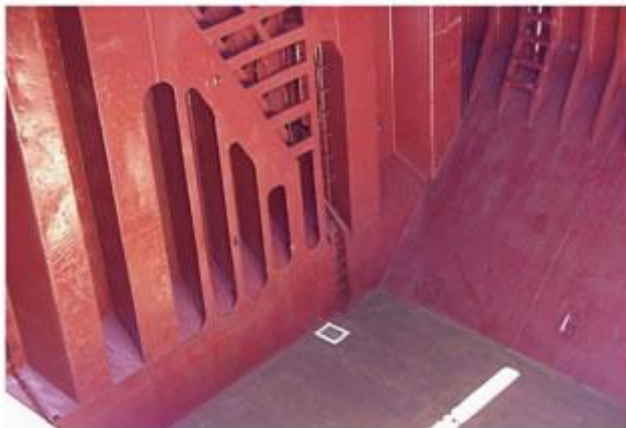
If the inspector finds a fault with a hold, if at all possible, the fault should be identified and recorded, and remedial action agreed with the inspector. If possible the fault should be rectified immediately and preferably before the inspector leaves the ship. If this is not possible a time should be agreed for his re-inspection.

### **Ballast hold**

The ballast hold is usually de-ballasted and prepared alongside during the loading period. If the hold and bilges were cleaned at the discharging berth, the ballast hold preparation will be quickly completed.

### **Loading grain**

Hold ready to load wheat



Loading grain; other hatches closed



Hatches not being loaded should be kept closed. All hatches after passing the grain inspection and prior to loading, must be inspected on a daily basis to ensure that they are still completely dry. Hatches containing grain cargo must not be entered due to a possible lack of oxygen. During the load, it is important to keep the grain cargo dry. If the grain is allowed to become wet, high cargo claims will result.

Regular visual checks by ships staff throughout the load should ensure that the grain being loaded is not in a wet condition. These inspections should be recorded in the deck log book.

During the loading of grain, dust clouds often develop. These are a health hazard and additional safety requirements, such as the wearing of eye protection goggles and dust masks should be observed by all personnel in the vicinity of the dust cloud.

If the master is in any doubt about the condition of the grain during the load, he must issue a note of protest and seek advice from his operators and/or the UK P&I Club.

## Completion of a hatch

All holds to be filled must be absolutely full. It is essential that the loading spout, or other mechanism, is directed to all corners, to avoid any void spaces. Time should be allowed for the grain to settle then refill any spaces (such as hatch corners).

Hatch vent to secure



Do not use foam to seal hatches



When the loading of a hatch has been completed, the trackways, hatch drains, and channel bars must be swept clean and the hatch closed. Water must not be used to wash down hatch trackways. DRY compressed air is very useful, but crew safe working practices must be observed when using compressed air. Ventilators should be tightly secured.

If the voyage instructions require hatch sealing tape to be used, as an additional precaution to prevent water ingress, then the hatch surfaces must be scrupulously clean before the sealing tape is applied. In cold climates, some brands of tape will adhere better if warmed in the engine room before they are applied. Foam compound should not be used to ensure hatch watertight integrity.

To prevent unauthorised access to the oxygen depleted grain holds, and where fumigation in transit is to be undertaken, all the hold access lids should either be padlocked or have steel security seals fitted.

## Loaded voyage

Regular checks of all hatch sealing tape (if fitted) should be completed and damaged or lifting tape immediately replaced. During the voyage, entry into any cargo space must be strictly prohibited. Ventilation during the voyage will depend on weather conditions and a comparison between the dew point of the air inside the hold and outside the hold. Under no circumstances should hold ventilation be permitted during adverse weather conditions or before fumigation in transit has been completed.

In good weather, basic cargo ventilation rules should be observed. Guidance can be obtained from Bulk Carrier Practice: A Practical Guide (ISBN 928 0114 581).

If the vessel has any oil tanks adjacent to or under the cargo holds, any steam heating to these tanks should be minimised, but in any case carefully monitored and full records maintained to prevent cargo heating and possible cargo damage. This is a point that is often overlooked by ships' staff.

## Typical examples of hold failures

The following images from a vessel which failed a grain survey, would suggest that: Ship's crew completed a very quick salt water wash.

No chemical wash was undertaken.

No hard scraping of the bulkheads was completed.

Previous hold cleaning had not been supervised (history of the ship's cargoes on the stiffeners). Showing:

Staining from the previous cargo (coal).

Cargo dust residues.



Deposits of previous cargoes in hard to reach places.

Flaking paint and scale.



**Inséré le 13/07/12 Historiek Enlevé le 3/08/12**

## **PIRAAT (ZEEROVER, KAPER, BOEKANIER,...)**

Iedereen kent ze, de gevreesde zeerovers die door de eeuwen heen en tot op vandaag, al dan niet met toestemming van de overheid, schepen als doelwit kiezen voor hun plunderacties. Dit "beroep" kent ook vele benamingen, zoals piraat, zeerover of zeeschuimer, kaper, boekanier en uitlegger. Waar komen die namen vandaan?

### **IN HET VERLEDEN KON HET ZELFS OP LEGALE WIJZE!**

De kaperij is misschien wel een van de oudste beroepen ter wereld. Al zolang als er koopwaar over zee wordt verhandeld, zijn er lieden actief om de konvoien aan te vallen en te beroven. De geschiedenis leert dat vele Franse, Nederlandse en vooral Britse havens beruchte uitvalsbasisen waren voor zeeroverij. Maar ook uit Vlaamse kusthavens kozen piraten (zoals Jan-Bart, Jacob Besage, Thomas Gournay, etc.) het ruime sop. In de volkse iconografie worden deze onpure types vaak afgebeeld met ooglappen, houten benen, haken als handprotheses en andere lugubere attributen. Die voorstellingswijze heeft wellicht minder te maken met de historische realiteit dan met de kwalijke reputatie van zeerovers wereldwijd.

Minder bekend is dat er ook zoiets bestond als legale piraterij. Deze zogenaamde commissie- of kaapvaart werd mogelijk gemaakt doordat overheden – via een commissiebrief – aan kapers toestemming verleenden om schepen van vreemde mogendheden aan te vallen en te beroven. Het idee was simpel: door formeel particuliere schepen het recht te geven vijandige schepen het leven zuur te maken, kon zonder al te veel kosten een machtspositie op zee worden



versterkt. De commissievaarders of kapers kregen duidelijke richtlijnen en dienden steeds verantwoording af te leggen aan de overheid in wier opdracht ze opereerden.

Boekaniers worden als een apart type kapers beschouwd. Deze avonturiers werden ingezet tijdens de 17de eeuw, toen Engeland en Frankrijk het Spaanse monopolie op grondgebied en handel in de Nieuwe Wereld trachtten te doorbreken en voortdurend de Caraïbische en Stille Oceaan kusten van Spaans-Amerika bestookten. De Spanjaarden noemden hen piratas, maar zelf noemden ze zich liever boekaniers. Omdat deze boekaniers eerder door de Spanjaarden waren verdreven van het Caraïbische eiland Hispaniola (het huidige Haïti/ Dominicaanse Republiek), koesterden ze een diepgewortelde haat tegenover de Spanjaarden.

## **DE OORSPRONG VAN DE TERM PIRAAT EN ZIJN VELE SYNONIEMEN PIRAAT en ZEEROVER**

Het woord piraat is via het Oudfrans pirate en/of het middeleeuws Latijn ontleend aan Klassiek Latijn pirata 'zeerover', dat zelf ontleend is aan Grieks peirates 'struikrover, zeerover'. Het Griekse woord komt van het werkwoord peiran, dat 'aanvallen' en 'proberen' betekent. Op zijn beurt is dat werkwoord gevormd uit het zelfstandig naamwoord peira 'poging, proef, ervaring'. Etymologisch betekent het Griekse peirates dus 'iemand die iets probeert, iets waagt', bij verdere concretisering ontstond de toepassing 'iemand die een aanval pleegt op iemand of iets', in de praktijk een rover ter zee of te land. Zustervormen van piraat komen voor in zowat alle Germaanse en Romaanse talen (Duits, Engels, Zweeds, Deens, Frans, Italiaans, Spaans, Portugees).

In onze taal duikt piraat pas op in de 16de eeuw – de tijd van Keizer Karel en de Spaanse bezetting van de Nederlanden – ter aanduiding van een kaper of een zeerover en bij uitbreiding ook wel voor een misdadiger in het algemeen. De oudste vermelding is terug te vinden in Vlietinck (1897) en komt uit een bron uit 1539: "Verteert by den bailliu, burchmeester, scepenen in de Papegay met de ghedeputeerde van Dunkercke ende Oosthende, de somme van VII £ VII s. paris ter tyde als dezelve ghedeputeerde hier varchierden up t faict van de pieraten jn zee zynde ende dezelve gghestelt up de rekenynghe van de drie zeesteden totter eersten peticie comt betaelt VII £ VII s."

In het Middelnederlands heette een piraat zeerover. De oudste vermelding van dat woord staat in een (niet gelokaliseerde) tekst uit het laatste kwart van de 14de eeuw (MNW i.v. Seerover): "Normans die ter Sluus ghevanghen sijn opt lant vor serovers (Hans. Recess. 3, 323)."

## **KAPER**

Ook het woord kaper (van het werkwoord kapen) verschijnt pas laat in de bronnen, namelijk rond het midden van de 17de eeuw. De oudste vindplaats in het WNT is een Hollandse bron uit 1652. Een kaper is, in de woorden van het WNT, "iemand die het kapen, de kaperij, de kaapvaart uitoefent, t. w. in oorlogstijd, met machtiging en op naam en gezag van den vorst of de landsregeering, met gewapend eigen vaartuig den vijand des lands op zee afbreuk doet door op diens koopvaardij schepen jacht te maken, ze aan te vallen en voor goeden prijs te verklaren: commissievaarder, kaapvaarder, kruiser". Volgens deze definitie is een kaper dus een "legale" zeerover, iemand die schepen kaapt in opdracht van een vorst, een machtshebber of een overheid.

## **UITLEGGERS**

Naast zeerover kende het Middelnederlands ook het woord uteligger/utelegger voor 'zeeschuimer, kaper' (MNW i.v. uteligger). Het is een samenstelling van ute 'uit' en ligger (uit het werkwoord liggen), met als letterlijke betekenis 'hij die buiten gelegen is'. Concreet sloeg het woord uteligger aanvankelijk op een bemanningslid van een wachtschip, dat was een militair schip dat havens en havengeulen bewaakte. Geleidelijk is het woord de betekenis gaan aannemen van zeeschuimer, kaper, zoals blijkt uit de volgende passage uit een in het MNW aangehaalde tekst van 1393: "Dat die wtleggers van Wissemar ende van Rostok him (den poorter van Dordrecht) genomen hebben een scip geladen mit houten, V. d. Wall 1, 346 (a. 1393)." Hier is sprake van een schip, geladen met hout en toebehorend aan een koopman uit Dordrecht, dat gekaapt werd door uteleggers uit Weimar en Rostock. De betekenisontwikkeling van 'bemanningslid van een wachtschip' naar 'zeerover' is wellicht te verklaren doordat de bemanning van wachtschepen haar bevoegdheid te buiten ging en aan piraterij ging doen.

## BOEKANIER

Boekanier is in de 17de eeuw ontleend aan het Franse boucanier, dat oorspronkelijk de benaming was voor Franse jagers op het Caraïbische eiland Hispanolia (vandaag Haïti en de Dominicaanse Republiek). Naar inheems gebruik plachten deze jagersavonturiers het vlees van het gevangen wild te roosteren of te roken op een vleesrooster, dat in de plaatselijke indianentaal mokaém of mukem werd genoemd. In de Franse mond verbasterde dat woord tot boucan, waaruit dan met een Frans achtervoegsel boucanier werd gevormd. Een boekanier is dus letterlijk 'iemand die vlees rookt of roostert'. Na verloop van tijd begaven deze "vleesroosteraars" zich echter op het pad van de zeeroverij, waardoor het woord boekanier een nieuwe betekenis aannam. Voortaan ging het de Franse en Engelse piraten aanduiden die tijdens de 17de eeuw de kusten van de Caraïben en Zuid-Amerika onveilig maakten. Intussen waren de rangen van de boekaniers aangegroeid met aan lager wal geraakte zeelui, ontsnapte slaven en marginalen allerhande. Nadat Engeland in 1689 vrede had gesloten met Spanje stierf deze vorm van zeeroverij uit, maar de benaming boekanier bleef in gebruik voor zeerovers en andere vrijbuiters. Samengevat, piraterij is even oud als de koopvaardij zelf en de beoefenaars ervan staan in onze (historische) woordenschat onder verschillende benamingen bekend. Daaronder zijn zeerover en uteligger/ utelegger de oudste, want ze komen al voor in Middelnederlandse teksten. Pas vanaf de Spaanse periode verschijnt ook het woord piraat, halfweg de 17de eeuw gevolgd door kaper en boekanier. In hun oorspronkelijke toepassing dekken die verschillende termen niet steeds exact dezelfde inhoud – een 17de eeuwse kaper was niet zó maar een zeerover – maar de specifieke betekenissen zijn vaak verloren gegaan. Zo worden vandaag kaper, zeerover en piraat in het gewone taalgebruik door elkaar gebruikt. Denken we maar aan de verslaggeving over de huidige piraten aan de Hoorn van Afrika. Dat deze lieden courant als kapers worden omschreven, zou de in overheidsdienst opererende piraten uit de 17de eeuw wellicht als een vloek in de oren klinken. Een woord dat de tand des tijds niet heeft doorstaan, is uteligger, terwijl boekanier een historische term is geworden.

Bronnen

- EWN = Etymologisch Woordenboek van het Nederlands: M. Philippa, F. Debrabandere, A. Quak, T. Schoonheim & N. Van der Sijs (Eds). Amsterdam University Press.
- Mathys M. (2009). The Quaternary geological evolution of the Belgian Continental Shelf, southern North Sea. Doctoraatsthesis, pp. XXIV, pp. 382, annexes. Universiteit Gent, Faculteit Wetenschappen, Gent.
- MNW = E. Verwijs & J. Verdam (1885-1929). Middelnederlandsch Woordenboek. 's Gravenhage.
- TLF = Le Trésor de la Langue Française informatisé: <http://atlf.atlf.fr/tlf.htm>
- Vlaeminck T. (2008). Piraterij: mythe en waarheid. De Grote Rede 21: 3-6.
- Vlietinck E. (1897). Het oude Oostende en zijne driejarige belegering (1601-1604).
- WNT= Woordenboek der Nederlandse taal. 's Gravenhage, Leiden, 1863-1998.

Grote Rede 2011

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**Inséré le 15/07/12 Boeken Livres Enlevé le 15/08/12**

## "Mariner's Rest"

Bij **Whittles Publishing** verscheen onlangs een interessant boekje onder de titel "**Mariner's Rest**". Het werd geschreven door Ray Solly. Het boekje is het laatste deel van een trilogie over zeevaart in 'the golden age of shipping' en sluit af met Jonathan Carridia's laatste jaren in de '**Merchant Navy**'. Jonathan beschrijft de chronologie van de gebeurtenissen die hem tot het 'uitstappen' uit het zeemansleven aanzetten. Hij beschrijft "atmosferische" incidenten in het Verre Oosten en zijn ervaringen aan boord van een supertanker, het type schip waarnaar hij als kadet steeds naar had uitgekeken. Dit uit het leven gegrepen verhaal zal bij menig oud-zeeman

herinneringen oproepen. Naast veteranen zal dit boek ook de jonge zeeman, de shiplover en de 'armchair sailor' aanspreken. Net als de twee vorige boekjes uit de trilogie, een aanrader.

**"Mariner's Rest"** (ISBN 978-184995-043-5) werd als softback uitgegeven en telt 218 pagina's. Het boek kost £16.99. Aankopen kan via de boekhandel of rechtstreeks bij de uitgeverij **Whittles Publishing**, Dunbeath, Caithness, Scotland, UK. Tel. +44 (0) 1593.731.333, Fax. +44(0) 1593.731.400, e-mail: info@whittlespublishing.com

**Door : Frank NEYTS**

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**Inséré le 15/07/12 Logboek Nouvelles Enlevé le 15/08/12**

## **New coating increases cargo flexibility**

A next generation tank coating has been unveiled in the chemical tanker market which promises to cut cleaning times and costs and increase the flexibility and volume of cargoes which can be carried. Downtime, as everyone knows, means loss of income so new products which enable ships to get back out to sea quickly are being heralded as an important investment.

So says International Paint which recently unveiled its latest chemical tanker cargo tank coating which enables ships to carry all of the cargoes that the standard epoxy phenolic technology can, plus a further 25% of the large volume cargoes that it cannot. It also has over 60% fewer cycling restrictions.

"Many cargoes previously classed as easy chemicals are now classed as high specification chemicals, so the challenge is becoming greater," said Andrew Hopkinson, International Paint's Business Development Manager.

The main traditional 'industry difficult' cargoes include ethylene dichloride, styrene monomer and benzene.

Up until now, coatings used have been zinc silicate and the largely popular epoxy phenolic but both have limitations in that they absorb and retain cargo resulting in lost earning potential as lengthy cleaning processes are needed to eliminate traces of the previous cargo.

For example, a tanker carrying methanol from the Middle East to the Far East and then carrying clean petroleum products back into the Middle East would need seven to 10 days of cleaning in between if it had an epoxy phenolic coating.

"From a paint company's perspective this phenomenon is putting a level of stress on the coatings so we normally evoke a recovery period, having carried one of these cargoes, which usually takes about 10 days," explained Mr Hopkinson. "If you cannot carry another aggressive chemical for 10 days it clearly affects the operational flexibility for the owner.

"Cargo retention causes the cleaning headache because we have to run the cleaning machines long enough to remove that retained material. If we don't spend the time and effort and costs, in terms of bunker fuel we are burning, we run the risk of contaminating the subsequent cargo," stressed Mr Hopkinson.

Stainless steel tanks, which do not require coatings, are an alternative option as they do not absorb or retain cargoes but they have become extremely expensive, often to the point where it is uneconomical for them to be used. Indeed, stainless steel prices increased four-fold from 2002-2007 and have stayed at that level since.

Mr Hopkinson again: "We have certainly seen, over the last few years, the trend back towards coated mild steel tonnage. Clearly owners and charterers would like the attributes that stainless steel offers but they want it as a cost-effective coating solution."

Interline9001, the latest coating technology from International Paint, is a bimodal epoxy coating which works with a special combination of low and high molecular weight polymers creating a loosely bound, but highly cross-linked, flexible network chain on ambient curing. The result, said Mr Hopkinson, is a highly chemical resistant film while maintaining flexibility.

"It eliminates the limitations of zinc silicates and the Achilles heel of epoxy technology. You get the best of the epoxy world without the limitation of absorption," he added.

"Flexibility is important because vessels and their tanks are getting bigger. Vessels are subject to flexing the bigger they get and so the ability of the coating to resist cracking on welds when the vessels flex is very, very important."

Along with greatly improving the downtime, Mr Hopkinson said the actual costs associated with cleaning are also significantly reduced with Interline9001.

"The cleaning time is reduced by up to 70%. Because you don't have to remove the cargo from within the paint film, the cleaning process essentially becomes a surface cleaning prep. We also have a significantly easier to clean surface."

The company took the coating to a third party tester – L & I Maritime (UK), an industry cleaning consultancy. With one full cleaning cycle following a styrene monomer cargo, there was no detection of the cargo and the same result was achieved on a tank that had contained ultra low sulphur diesel. With an epoxy phenolic coating the cleaning cycles would have to run many times before no cargo could be detected.

The savings in fuel costs with the new coating has been put at around \$70,000 per vessel.

International Paint is already in contract negotiations for 14 vessels under seven different companies – six are newbuildings and the rest are for maintenance and repair. And with the chemical carrier market doubling over the last decade with significant newbuild activity and larger ships, the company is hoping to achieve even more growth.

Mr Hopkinson estimates there are currently about 7,000 chemical carriers in the market – 4,000 chemical tankers and 3,000 product vessels – with a further 800 to 900 currently in production for each sector.

He believes the new coating will hit both newbuild and maintenance and repair markets as vessels coated with epoxy phenolic coatings in 2003/04 would now be due for maintenance and repair.

"We also expect more orders to come in for newbuilds over the next 12 to 18 months," he added. "The projected growth for the chemical market is 6 to 8% year on year."

Although Interline9001 comes at a price – up to three times more than the selling price of an epoxy phenolic coating – Mr Hopkinson claimed payback would come as soon as between six and 12 months.

International Paint also expects the coating to last twice as long as an epoxy phenolic coating, which usually has a lifetime of about seven and a half years.

"It is still extremely competitive compared to the price of stainless steel," he said.

However, Eddie Bucknall, Technical Director for Cyprus-based Columbia Shipmanagement said his company still preferred to use stainless steel tanks for the more difficult cargoes.

"We do have tankers with coated tanks for what I class as easy chemicals. All of our more difficult chemical tankers, of which there are about 10, have stainless steel tanks. Stainless steel is the most expensive but it's the easiest to clean form of coating."

He did agree that tank cleaning can pose a headache, but only if coatings were not maintained well.

"If your coating is in good condition the tanks are very easy to clean, but if the coating starts to break down you get problems. It is essential that the coating remains intact because if it does not cargo can get trapped. Minute contamination can wreck a cargo."

He said Columbia Shipmanagement did keep an eye on the coatings market and what was becoming available. However, he said the company would not want to go about changing coatings on existing ships."

"With a cargo coating, once you have chosen a coating at newbuilding you are really stuck with that for the rest of the ship's life. You don't want to change the coating as it becomes too expensive and too complicated to blast it all off and start again."

He said the cost issue of the stainless steel was irrelevant as the chemical carriers were expensive vessels anyway and quality needed to be invested in.

However, Mr Bucknall did not rule out the possibility of using Interline9001 in the future.

He said: "It definitely would be popular, if it works. We do look at new coatings and if we were talking about newbuildings we would look at it.

"If the tanker was carrying easy chemicals, we already have a very good experience with International Paint and its cargo tank coatings – they are excellent and we have no problems at all – but if the vessel was going to carry more difficult chemicals I would seriously have to look at whether to use a coating or stainless steel."

The cost of fuel is the largest variable in the operational budget in the marine industry and as with Interline9001 cutting cleaning bunker fuel costs, many companies are tapping into the 'greener' coatings market to reduce fuel and, subsequently, environmental costs.

Netherlands-based Sigma Coatings says fuel consumption is set to rise by about 117m tonnes by 2020, meaning a total cost increase for global shipping of \$60bn.

Longer range scenarios also show that by 2020, in the absence of policies, CO2 emission from international shipping may grow from 1,120m tonnes in 2007 to 1,457m tonnes.

In response to the financial and environmental challenges, Sigma Coatings launched its new coating, Sigmaglide 990, a third generation fouling-release product. Sigma says its pure silicone topcoat reduces frictional resistance to the point where fuel savings of a guaranteed 5% can be made.

Sijmen Visser, Sigma Coatings' Global Segment Manager Marine – Maintenance and Repair, said it was vital to look at fuel costs and ways of cutting back on the amounts used within the shipping industry.

"With conditions improving within the global economy, and the prospects of continued growth in global trade, it is foreseen that fuel consumption will increase in the coming decade. Carbon dioxide emissions will also develop at a comparable pace."

Since the launch of the Sigmaglide system, more than 200 vessels have been coated ranging from static vessels and shuttle tankers to high speed ferries.

Another company making waves in the greener coatings market is Gibraltar and UK-based Brunel Marine Coating Systems.

Its EnviroMarine hull coating has been around for over a decade now and was the first and only hull coating to be approved and certified by DNV as eligible for a subsidy from the Shipowners' Environmental Fund, due to its green credentials.

While the industry is searching for ways to extend dry-docking intervals and others trying to achieve a seven and a half year docking interval, EnviroMarine has been singled out as suitable for a 10-year docking interval. This will allow an owner to apply a full coating of EnviroMarine at the vessel's five-year Special Survey and not dry dock again until she is due for her 15-year Special Survey and TMON requirements.

David Shreeve, Director and Co-Founder of the UK's Conservation Foundation, praised the company's green credentials: "Whoever we are, wherever we are, we all have an environmental footprint. From what I have seen of Brunel's EnviroMarine, it certainly helps the marine industry to reduce its environmental footprint."

Soren Valbro, Director of Brunel MSC, said EnviroMarine was still selling well and the company was concentrating on more advances in technology.

"We are working on quite a few very interesting new developments at the moment – but as always in this business, we are not at liberty to disclose anything until the final approvals are in place," he said.

Advanced Marine Coatings, from Norway, claims its products, trade-named Green Ocean Coatings, could make a significant difference to a ship's speed and fuel consumption.

It says it has harnessed a breakthrough nano-science and a patented dispersion technology to make a type of paint with exceptional abrasion resistance and smoothness. The way it works lies in the carbon nano tubes (CNT) which are distributed evenly in a liquid resin, reducing viscosity and working as a tough reinforcement to the coating.

These tiny, carbon tubes, AMC says, will improve abrasion resistance by at least 100% compared to traditional, solvent-borne epoxy systems. The company has partnered Finnish firm Amroy Oy and has obtained worldwide exclusivity to use this technology in marine coatings.

Paal Skybak, Managing Director at AMC, said: "This is an ideal partnership. It has formed the foundation for developing several subsea and topside marine coatings with properties superior to those of traditionally reinforced epoxy coating systems."

AMC receives sponsorship for Green Ocean Coatings through a development programme funded by Innovation Norway and the Norwegian Research Council.

"Many companies are acutely aware of the costs to the environment and looking at ways to reduce these," concluded Columbia Shipmanagement's Mr Bucknall.

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**Inséré le 17/07/12 OPEN FORUM Enlevé le 17/08/12**

## **Particuliere beveiligers of de marine?**

Eind vorig jaar verscheen het advies van de Adviesraad Internationale Vraagstukken (AIV) 'Piraterijbestrijding op zee'. De Raad adviseert de Nederlandse regering onder meer in bijzondere gevallen schepen toe te staan gewapende particuliere beveiligers in te zetten. ©HA. L'Honoré Naber.

Na de kabinetsreactie op het AIV-advies werd een commissie onder voorzitterschap van mr. J.L. de Wijkerslooth gevraagd te adviseren over de mogelijkheid en wenselijkheid van de inzet van particuliere beveiligers, PSC's, op koopvaardij schepen onder Nederlandse vlag. Op basis van dit advies zal de regering vervolgens een standpunt bepalen.

### **OPDRACHT**

Het rapport werd op 1 september dit jaar op het ministerie van Veiligheid en Justitie gepresenteerd. De opdracht aan de commissie De Wijkerslooth vermeldt onder andere dat zij gemachtigd is om informatie te vergaren en te rade te gaan bij derden die daarover beschikken. Verrassend was dan ook dat noch de Redersvereniging, noch Nautilus, noch de Kapiteinsvereniging als belangrijke spelers in dit veld, zijn geraadpleegd. Of andere partijen of personen uit de maritieme sector zijn benaderd, is niet bekend.

Het rapport stelt dat in beginsel private beveiligers zouden kunnen worden ingeschakeld, mits aan een aantal voorwaarden is voldaan. Zo is er een vorm van regulering en toezicht nodig. De overheid zou niet moeten toelaten dat rederijen zelf contracten aangaan met PSC's, maar moet zelf zorgen voor voldoende niveau van beveiliging tegen zeeroverij. Zeer kwetsbare transporten krijgen bescherming, maar dit verdient uitbreiding. De daarvoor benodigde capaciteit zou moeten komen uit de staande militaire organisatie, indien nodig uitgebreid met capaciteit van buiten. Als het nodig is, dienen de rederijen bij te dragen aan de financiering van de benodigde capaciteit.



## TWEE MOGELIJKHEDEN

De commissie De Wijkerslooth noemt twee mogelijkheden voor bescherming: rechtstreekse overheidsbescherming en eigen zorg. Bij rechtstreekse overheidsbescherming gaat de commissie ervan uit dat de overheid een aanvaardbaar geacht niveau van beveiliging biedt. Het aan de overheid voorbehouden van gewapende bijstand heeft het voordeel dat dit binnen de bestaande operationele, procedurele en wettelijke kaders eenvoudig is te verwezenlijken. Gewapende bescherming wordt geheel georganiseerd, ondersteund en geleid door het defensieapparaat.



Daarbij kan op verschillende geweldniveaus worden geopereerd en wordt gezorgd voor voldoende 'escalatiedominantie' als voorwaarde voor een preventieve werking. Het biedt ook goede mogelijkheden voor verslaglegging en onderzoek. En ten slotte wordt in het rapport gesteld, dat bij conflictsituaties met piraten de verantwoordelijkheid van de kapitein van het koopvaardijship overgaat naar de militaire commandant van het beveiligingsteam. Deze stelling is van groot belang voor de kapitein, die aan boord verantwoordelijk is voor de handhaving van de wet. Veiligheid van schip, opvarenden en lading zijn zijn eerste prioriteit. Soms moet hij beslissingen nemen waartoe hij geen deskundigheid bezit (zoals bij gebruik van wapens ter verdediging tegen piraten) en daarvoor ook geen verantwoordelijkheid zou mogen dragen. Het is verheugend dat het rapport onverhuld uitspreekt, dat de verantwoordelijkheid overgaat naar de militaire commandant.

Hoe de aansprakelijkheid in civielrechtelijke en strafrechtelijke zin is geregeld, kan hier niet worden overzien. Dat blijft voor de kapitein nog een te beantwoorden vraag. Wapengeweld aan boord van een koopvaardij schip wordt door Nederlandse gezagvoerders in principe niet voorgestaan. Als er geen andere keuze blijkt om de veiligheid te garanderen, wil men ook zekerheid dat het goed afloopt. Bij een gewapend conflict met gewelddadige kapers is het erop of eronder. Is men niet opgewassen tegen de nietsontziende criminelen, dan volgt een zorgelijke afloop. Voorbeelden daarvan zijn bekend. Het is van essentieel belang dat een beveiligingsteam zich in alle opzichten gesteund weet door de Nederlandse overheid. Deze 'massa' missen civiele PSC's die niet onder de paraplu van de overheid opereren.

## ZELF VOORKOMEN

Optie twee moet rederijen de mogelijkheid bieden door inhuur van gewapende particuliere beveiligers zelf te voorkomen dat hun schepen slachtoffer worden van zeeroof. De Nederlandse overheid moet dan door middel van regulering en toezicht zorgen voor voldoende waarborgen. Deze optie moet een rederij meer flexibiliteit geven bij het accepteren van lading of het aannemen van opdrachten.

Het primaire oogmerk van de in te huren beveiligers moet afschrikking zijn. De commissie denkt daarbij aan het voeren van lichte vuurwapens en, indien noodzakelijk, het vuren van waarschuwingsschoten. Indien het uitloopt op een conflict, zal iedere actie gericht zijn op het afwenden van een aanval. De commissie beoogt maximaal effect bij minimaal geweld. Hiertoe zal de wet- en regelgeving moeten worden aangepast.

De vraag is dan wel hoe toezicht op naleving moet worden uitgeoefend. Ook hier komt weer de aansprakelijkheid van de gezagvoerder naar voren. Het rapport zegt daarover dat in dit geval steeds de volledige civielrechtelijke en strafrechtelijke aansprakelijkheid bij de kapitein berust. Ook is hij mogelijk aansprakelijk voor het vervoer en bezit van wapens bij het aan boord brengen en van boord halen ervan door particulieren. Deze passage is voor de kapitein weinig geruststellend. Hij wil en mag niet aansprakelijk worden gesteld voor zaken waartoe hem de kennis ontbreekt.

## **INTERNATIONAAL PERSPECTIEF**

De Stichting Maatschappij, Veiligheid en Politie levert met een studie door mr. G.J.A. Knoops vanuit internationaal perspectief een bijdrage aan de discussie. Uitgangspunt is de behoefte van internationaal opererende reders naar legalisering van beschermingsmaatregelen.



De studie stelt twee onderzoeksvragen. De eerste vraag is of het internationaal recht toelaat dat in specifieke gevallen van zeeroverij het geweldsmonopolie van de overheid kan worden doorbroken en zo ja, op welke juridische grondslag. Vanuit internationaal mensenrechtelijk perspectief moet worden vastgesteld dat aan de Nederlandse Staat een rol is toebedeeld om haar onderdanen en

daarmee dus ook de bemanningsleden van koopvaardij schepen onder Nederlandse vlag die door risico gebieden varen, adequate bescherming te bieden. Zodra de Staat concrete aanwijzingen heeft dat haar onderdanen worden bedreigd, is het van belang dat zij de juiste preventieve maatregelen neemt ter bescherming.

Verder wordt vastgesteld dat staten zich niet kunnen onttrekken aan de geldende internationaal rechtelijke verplichtingen door staatstaken (zoals bescherming van het recht op leven) op private personen of organisaties af te wentelen. In beginsel is het geweldsmonopolie voorbehouden aan de overheid. Gezien de huidige situatie binnen het ministerie van Defensie, waarbij gebrek aan voldoende middelen lijkt te bestaan om reders de nodige veiligheid te bieden, zou doorbreking van het geweldsmonopolie moeten kunnen worden toegestaan.

Een argument voor doorbreking van het geweldsmonopolie kan gevonden worden binnen het recht op zelfverdediging. Mensenrechtelijke verdragen, zoals het Europese Verdrag voor de Rechten van de Mens (EVRM), bieden voldoende aangrijpingspunten om het recht op zelfverdediging tegen zeeroverij te rechtvaardigen.

## **GELIJKHEID DER WAPENEN**

De tweede onderzoeksvraag volgt op de eerste vraag: indien de geweldsmonopolie onder omstandigheden doorbroken kan worden en gedelegeerd aan PSC's, geldt deze doorwerking dan ook voor wat betreft de 'gelijkheid der wapenen'? De Staat heeft de verplichting ten aanzien van reders met schepen onder Nederlandse vlag om de veiligheid en het recht op leven van de bemanningsleden te garanderen. Is zij niet in staat deze taak zelf voldoende in te vullen, dan zou zij kunnen overwegen om het geweldsmonopolie over te dragen aan derden. Reders zouden dan in staat moeten worden gesteld om zelf het zelfverdedigingsrecht te realiseren.

Wanneer PSC's, onder voorwaarden, op gelijke wijze worden uitgerust als militaire beveiligers, kan daadwerkelijk effectieve bescherming worden geboden aan schepen onder Nederlandse vlag. Pas dan kan gezegd worden dat de Staat de positieve verplichting om de veiligheid en het recht op leven te garanderen, daadwerkelijk nakomt. Noch uit rechtspraak, noch uit rechtsliteratuur volgt een duidelijk antwoord of is toegestaan dat PSC's zouden mogen beschikken over soortgelijke wapens en uitrusting als de overheid in dat geval zou gebruiken. Volgens de studie moet dan een gedragscode worden opgesteld waaraan de PSC's dienen te voldoen. Met andere woorden, een PSC zou enkel mogen handelen onder de voorwaarden waarop nu marinierseenheden worden ingezet. Aangezien de verantwoordelijkheid bij de overheid blijft, zal tevens een instrument moeten worden ontwikkeld om achteraf het handelen controleerbaar te maken en een protocol om onafhankelijk en adequaat onderzoek mogelijk te maken nadat geweld is toegepast.

Voor de gezagvoerder is het verheugend dat zo voldoende wet- en regelgeving hem kan steunen bij de verdediging tegen van buiten komend onheil. Dat een rapportage-, onderzoeks- en controlemechanisme daarbij onmisbaar zijn is evident. Toch blijft ook hier de vraag, in hoeverre de praktijkuitvoering de voorstellen kan dekken. Blijft er een restaansprakelijkheid voor de kapitein? Is het de kapitein die de rapportage moet gaan uitvoeren? Daartoe zal hij dan toch eerst heldere instructies moeten krijgen, misschien zelfs opgeleid moeten worden. De praktijk zal dat later moeten uitwijzen.

## **SNELLE MAATREGELEN**

Vooralsnog liggen nu twee studies voor die diepgaand de materie belichten. Een punt van zorg is, dat de dreiging van de huidige zeeroverij zulke vormen heeft aangenomen dat snelle maatregelen geboden zijn. Na instemming door de regering met (een deel van) de aanbevelingen zullen uitwerking en implementatie nog geruime tijd vergen. Die tijd is er niet.

Kapers op de Noord-Indische Oceaan en aangrenzende wateren zijn inventief, bedenken voortdurend nieuwe strategieën en zijn buitengewoon gewelddadig. Voor een koopvaardijchip dat maandenlang onderweg is over de wereldzeeën en havens aandoet van landen, waarvan de regelgeving niet altijd even soepel is als we zouden willen, vereist dat een planning en logistiek van vele weken vooruit. Hoe moet daar invulling aan worden gegeven?

Het probleem van tekort aan beveiligingspersoneel lijkt eenvoudig oplosbaar. In de komende tijd moeten vele vakbekwame militairen Defensie al dan niet gedwongen verlaten. Wellicht kan hier een efficiënte oplossing gevonden worden voor de vulling van een pool van beveiligers.

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## **New instructions regarding weapons and armed guards**

The **Gard P&I Club** issues alert for Egypt/Suez Canal - new instructions regarding weapons and armed security guards onboard commercial vessels as follows:

During August 2011, the Egyptian Authorities announced that commercial vessels in Egyptian territorial waters were not allowed to carry any weapons or armed security guards onboard as this was stated to be contrary to international maritime law.

Consequences in case weapons were found onboard vessels when staying in Egyptian territorial waters whether that be along quays in ports, while anchoring in the inner or outer waiting areas or while transiting the Suez Canal, were reported to be serious. The master of the vessel and her crew members would be liable to legal penalties in accordance with Egyptian Law such as arrest of the vessel and her master, and any person onboard carrying weapons without permission.

Gard's understanding is that the above described prohibition notice by the Egyptian Authorities on carrying weapons through the Suez Canal was originally introduced as a precautionary measure to prevent weapons being smuggled to/from Egypt during a period with somewhat unstable conditions in the country.

It appears, however, that implementation of the said requirements have not been carried out in practice, mainly due to the difficulties associated with the implementation itself but also due to the somewhat negative effect it would have on the shipping business in the area. Gard's correspondent in Egypt advises that, to their knowledge, no searches of any kind have been carried out onboard vessels, neither during Suez Canal transits nor during port stays.

Reportedly, the Egyptian Authorities have now withdrawn the previously announced prohibition notice and instead all vessels carrying weapons and armed security guards onboard when entering Egyptian territorial waters are now required to present a letter certified by the vessel's flag state detailing:

- name of ship and the shipowners;
- list of weapons and ammunitions carried onboard;
- number of armed guards onboard; and
- the identity of the employers of the armed guards onboard.

According to the authorities, the letter should also include a confirmation that the weapons and ammunition carried onboard will not be used during the vessel's presence in the Egyptian territorial waters.

Prior to entering Egyptian territorial waters, Members and Clients should ensure that the vessel carries the certified letter in accordance with the new instructions announced by the Egyptian Authorities.

There are currently no indications as to how Egyptian Authorities plan to implement and follow-up the new requirements for vessels transiting the Suez Canal and the consequences were weapons to be found onboard vessels not in possession of the required letter. Hence, Members and Clients should contact their local agents for the latest information on the requirements of the Authorities and make the necessary arrangements accordingly. **Source : Gard P&I**

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**Inséré le 21/07/12 Logboek News Enlevé le 21/08/12**

## **Low Report Rate**

According to figures released by MSCHOA, three quarters of Hong Kong-flagged ships and two thirds of Singapore-flagged ships are not registering with EU Navfor's Maritime Security Centre-Horn of Africa when they sail in high risk pirate waters. According to the data from MSCHOA, of 68 Hong Kong-flagged ships transiting through high-risk areas in January, 50, or 76%, did not register. For Singapore-flagged vessels, 61 ships failed to register, the equivalent of 63%. Ships from both flag states also had poor reporting performances in February, when 73% of Hong Kong-flagged and 59% of Singapore-flagged vessels failed to register. Seeing as reporting is a basic part of the BMP approach, it seems that many are falling at the first hurdle. But why?

Several theories have been put forward as to why two of Asia's leading centres of shipping tonnage have less than average compliancy. Uppermost seems to be confusion and the often huge disparity between policy and practice when it comes to anti-piracy measures. It seems Masters are unsure about where and when they need to report, especially as the piracy danger zone widens. "In the last few months the area for required for registration expanded to include the Indian Ocean so also now includes ships not transiting the Gulf of Aden," said Dan Caldwell, assistant chief of staff with EU Navfor's operations support group.

This had led to a "common misconception" that ships only needed to register when using the Gulf of Aden, Mr Caldwell said. A spokesman for the Marine Department of the Hong Kong government said it issued circular letters regarding security to Hong Kong-registered vessels navigating in pirate-infested area. These reminded masters and seafarers the importance to follow the measures as advised in the Best Management Practices to Deter Piracy in the Gulf of Aden and off the Coast of Somalia, the spokesman said. These encourage passing merchant vessels to report to the MSCHOA and to consider joining the PLA convoy when transiting the Gulf of Aden, he said, in reference to the People's Liberation Army of China.

Meanwhile, a spokesperson for the Maritime and Port Authority of Singapore said the country was one of the flag states that shares long-range identification tracking information with EU Navfor and NATO counter piracy forces. Singapore also receives regular reports on vessels that failed to register with MSCHOA and that these reports have allowed MPA to focus its attention on ship operators who were not registering with MSCHOA, MPA said. "In most instances, ship operators cited confusion over the dual reporting requirements to both UKMTO and MSCHOA," the spokesperson said. "Many were under the impression that a vessel needed only to report to one and not the other." "Another reason why some shipowners were not reporting to MSCHOA was the misconception that they only needed to do so if their vessels were transiting the Gulf of Aden. In many cases, the ships did not report as they were operating off the coast of India," the spokesperson added. MPA said it was taking steps to ensure that shipowners of Singapore-flagged ships were aware of the reporting requirements. **Source : ShipTalk**

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**Inséré le 23/07/12 OPEN FORUM Enlevé le 23/08/12**

## **Cold Ironing**

**Clean, Easy, Cost Efficient, and Nothing to Do with Shirts**

Alternative Maritime Power (AMP) promises an end to polluted, noisy ports. This technology, also known as cold ironing, involves ships turning off their generators when in port and plugging into shore-side electricity supply.



The two largest ports in the U.S., Los Angeles and Long Beach, where cold ironing has already been introduced, have seen dramatic improvements in air quality, enhancing the health of port employees and those living in surrounding areas. "Each ship using AMP saves around one ton of pollutants per day, giving significant air quality savings for the port area," says Theresa Adams Lopez, director of media relations at the Port of Los Angeles.

AMP technologies represent a fundamental change in the way ports and shipping impact the environment. Cold ironing is a reference to how ships cool when crews shut down engines and plug into shore-supplied electricity. Ships having lost power are referred to as "cold irons." Striking a balance between economic demands and concerns over the environment is one of the greatest challenges currently facing port operators and shipping companies. With record numbers of cruise ships and containerships on order, this issue is likely to become increasingly acute. One area where the shipping industry can reduce pollution effectively is in ports where moored vessels run their auxiliary generators around the clock. Ships require power while docked to run substantial onboard needs from lighting, telecom and cooking to mooring and cargo handling. The result is that on-board generators churn out millions of tons of diesel fumes.

### **Less Fuel, Cleaner Ports**

Fuel used by ships tends to produce high levels of carbon, sulphuric and nitrogen oxides. Both nitrogen oxides (NOx) and sulphur dioxide (SOx) contribute to the acidification of lakes, rivers and forests. If no action is taken to combat these pollutants, the European Commission (EC) estimates that NOx and SOx emissions from vessels operating in the European Union (EU) will exceed land-based emissions by 2020. According to EC research, switching to shore-side electricity can cut carbon dioxide and nitrogen dioxide emissions by more than 50% and carbon oxide emissions by

99% - far superior to reductions possible with the use of alternative fuels. Cold ironing also eliminates vibrations and noise from auxiliary engines, measured at 90 - 120 decibels in some port areas.

### **The Lawyers Are Coming**



In an example of legal requirements that could be replicated by other countries and international agencies and industry, the California Air Resources Board (CARB) recently approved new rules designed to limit emissions from diesel engines operated by deep-sea vessels while in California state waters. The California state government is now reportedly in moves to launch legal proceedings against the United States federal government over the lack of national limits on ship-generated emissions. CARB has also suggested changes to existing regulations

that would see all ocean-going vessels required to switch off auxiliary diesel engines after one hour of berthing in Californian ports. Stricter requirements for European ports also look increasingly likely.

The EU has repeatedly encouraged the use of shore-to-ship electricity systems by developing guidelines and considering financial incentives for ports using AMP. The 27-member bloc is currently discussing how to tie criteria for financial support, or make use of market-based incentives to promote lower emissions. From January 1, 2010, ships at berth and inland vessels must start to use fuel with sulfur content of below 0.1 percent or adopt AMP.

### **Low Risk Revolution**

While many see the advantages of cold ironing as genuinely ground breaking, the technique is already tried and tested. Naval vessels, often in port for extended periods, have made use of the technique for many years. The Cavotec Group, for one, has developed a number of emission-reducing products. The port of Gothenburg, on the west coast of Sweden, converted a ferry terminal to shore-side power supply with Cavotec systems in 1989. Pohang Iron and Steel Company in California established cold ironing systems two years later, and five cruise ships were converted to shore-side operation in Juneau, Alaska, in 2002. Cavotec is working closely with port authorities, maritime companies and ship designers and builders to develop a wide range of AMP systems, including shore-based and ship-based applications.

Today, Cavotec AMP systems are installed or being installed on more than 100 vessels. Currently, 14% of newbuild containerships over 5,000 TEU delivered since 2005, or set for delivery by 2009, have shore-to-ship equipment onboard. Cavotec is also researching cold ironing applications for ferries, RoRo ships, gas carriers and diesel-electric tankers.

### **Options Available Now**

In a bid to meet growing pressure on air quality, the port of Los Angeles unveiled the world's first electrified container port in June 2004.

Under the San Pedro Bay Ports \$2b Clean Air Action Plan, approved in November 2006, some \$400m are to be devoted to electrifying berths at Los Angeles and Long Beach. The ports plan to offer AMP compatible connections to every vessel making regular calls at their ports by 2011.

"We're very excited about AMP. The ultimate goal is to have all container ships calling at Los Angeles and Long Beach using AMP," Adams Lopez said. Port authorities in the Far East, especially in Japan, are also showing growing interest in AMP, including shore-based and ship-based applications.

Alternatives to plug-in solutions exist, and include supplying power from shore via barges moored alongside ships and container-based systems. The costs of using barges tend to be prohibitively high, and container-based power supplies take space from the trade. Ship-to-shore systems are considered safer and easier to operate, while allowing rapid turn-arounds. And for newbuild vessels at least, ship-to-shore systems are the cheapest alternative currently available.

### **Remaining Obstacles**

While questions will remain over how power used in ports is generated, cold ironing has proven to yield dramatic improvements in air quality in and around ports and in surrounding communities. In the absence of internationally recognized standards governing the use of cold ironing however, adoption of the technique remains modest.

The industry, including Cavotec, has been working with the International Organization for Standardization (ISO) in efforts to define international standards for AMP. The International Electrotechnical Commission (IEC) is currently working on several initiatives to develop international standards for ship-to-shore connections, including a standard for High Voltage Shore Connection Systems (HVSC Systems). The IEC expects to publish the first Publicly Available Specification (PAS) by the end of March this year.

### **The International Maritime**

Organization's Marine Environment Protection Committee (MEPC) has been considering the global standardization of in-ports electrical supply in recent years. The MEPC is taking steps to build upon the consensus among MEPC Committee members, environmental group Friends of the Earth International, and the industry as a whole, that standardized power supply connections would benefit the shipping industry.

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## **De geschiedenis van de Belgische lichtschepen tot 1950**



lichtschipstations.

### **Station Paardemarkt**

De Belgische Noordzeekust is bezaaid met zandbanken. De talrijke schipbreuken en strandingen noopten in het verleden tot het uitleggen van lichtschepen, om gevaarlijke plekken te markeren en schippers de mogelijkheid te bieden zich te kunnen oriënteren in dit labyrint. Hoewel België een korte kustlijn heeft, zijn er maar liefst vier lichtschipstations actief geweest: Paardemarkt, West-Hinder, Wielingen en Wandelaar.

De Belgische lichtschepen hebben het zwaar te verduren gehad. Aanvaringen kwamen veelvuldig voor, met grote schade en soms zelfs het zinken van het lichtschip als gevolg. Tijdens WO II zijn alle nog actieve lichtschepen en de reservescheepen tot zinken gebracht door Duitsers, Engelsen of Fransen. In de periode 1950-1951 is een nieuwe vloot gebouwd, bestaande uit drie identieke lichtschepen die bij toerbeurt dienst deden op de twee overgebleven stations West-Hinder en Wandelaar. In 1968 werd de West-Hinder 1 uit dienst genomen. In 1992 volgde nummer 3 en in 1994 werd de West-Hinder 2 als laatste lichtschip voorgoed binnengehaald.

Ik heb met de hulp van Cees Tijssen en Peter Kouwenhoven geprobeerd de geschiedenis van de Belgische lichtschepen te reconstrueren. Een probleem daarbij was dat er veel archiefmateriaal verdwenen is tijdens de oorlog. En de bronnen die er zijn spreken elkaar gedeeltelijk tegen. Met name over de nummering van de lichtschepen bestaat verwarring. Het was dus echt puzzelen om het spoor van de diverse lichtschepen te volgen. Een deel van de puzzelstukjes ontbreekt nog, maar toch is er een levendig beeld ontstaan van dit stukje van de nautische geschiedenis van België. In dit deel wordt de periode tot 1950 beschreven, aan de band van de gebeurtenissen rondom de vier

Op 5 november 1848 werd het eerste Belgische lichtschip uitgelegd bij de zandbank Paardemarkt, schuin tegenover de monding van het Zwin. Het was een houten schip met een romp bekleed met koperen platen ter bescherming tegen boorwormen. Door verzanding veranderde de situatie rond de Paardemarkt zodanig dat een lichtschip op deze locatie in 1868 niet meer nodig was. Het station werd opgeheven en het lichtschip werd verplaatst naar de monding van de Wielingenpas.

## Station Wielingen



Het in 1848 gebouwde lichtschip Wielingen, alias 'ex-Paardemarkt' in 1901 (Collectie Michel Forand)

Nederland en België hebben na de scheiding vele decennia gediscussieerd over de verantwoordelijkheid voor de bebakening van de Schelde en de soevereiniteit over de belangrijke vaargeul Wielingen. België wilde al in 1847 een lichtschip plaatsen in de Wielingen. In 1866 stemde Nederland daarin toe, ondanks het feit dat de discussie over de soevereiniteit bij lange na niet was afgerond (pas in 1996 kwam het tot een akkoord!). Op 24 januari 1868 werd station Wielingen geopend en kreeg de 'ex-Paardemarkt' de naam Wielingen. In de nacht van 27 op 28 februari 1914 is de Wielingen in dichte mist

aangevaren door de Zweedse s.s. Northly, met zware averij als gevolg. Het lichtschip is na herstelling in dienst gebleven maar later in het jaar van zijn anker losgeslagen en afgedreven naar Nederlandse wateren. Onmiddellijk na de oorlog, in 1918, is het teruggevonden in Vlissingen. In 1920 is het lichtschip van Vlissingen naar Oostende gesleept en na een opknabbeurt uitgelegd als Wandelaar. Het station Wielingen is in 1920 opgeheven. Er kwam een lichtboei in de plaats.

## Station Wandelaar



Het in 1882 gebouwde lichtschip nummer 1 omstreeks 1914 (Collectie Michel Forand)



Het in 1923 gebouwde lichtschip nummer 3 omstreeks 1930 (Collectie Michaël Maerckaert)

Op 20 augustus 1882 werd een nieuw lichtschip uitgelegd bij de Wandelaar: een groepje zandbanken ten noordwesten van Blankenberge. Vanaf 1881 werden lichtschepen genummerd; deze Wandelaar was lichtschip nummer 1. Op 25 juni 1904 werd de Wandelaar geramd door de viermastbark Cormia uit Glasgow, met bestemming Antwerpen, en zwaar beschadigd naar Oostende gesleept. Het schip werd hersteld en teruggelegd op zijn positie. Tijdens WO I is het station Wandelaar naar aile waarschijnlijkheid niet bezet geweest. In 1920 heeft de 'ex-Wielingen', alias 'ex-Paardemarkt', de positie Wandelaar ingenomen. In de jaren 1922 en 1923 werd op de scheepswerf Cockerill in Hoboken een tweetal identieke lichtschepen met een ijzeren lantaarnmast

gebouwd: nummer 2, West-Hinder (1922) en nummer 3, Wandelaar (1923). Op dat ogenblik waren er dus drie Wandelaars. Lichtschip nummer 1 heeft nog als reserve dienst gedaan maar de ex-Wielingen vermoedelijk niet meer. In 1925 werd de Wandelaar -welke is onduidelijk- geramd door de Duitse driemaster O. Botriza en schipper Frans Brijs overleed aan zijn verwondingen. In 1930 werd de ex-Wielingen naar Oostende gesleept en daar als depotschip gebruikt. In 1934 is hij gesloopt, na 86 jaar trouwe dienst. Het lot van lichtschip nummer 1 is niet helemaal duidelijk. Er wordt melding gemaakt van meteorologische waarnemingen op het schip tussen 1882 en 1934. Mogelijk is het schip direct na deze periode uit dienst genomen. In 1939 was het er zeker niet meer.

## Station West-Hinder



(boven) Het in 1870-1872 gebouwde lichtschip West-Hinder omstreeks 1910 (Uit de beeldbank van het Vlaams Instituut voor de Zee)

Op 15 maart 1864 werd het eerste lichtschip uitgelegd op de West-Hinderbank, ter hoogte van Oostduinkerke, haaks op de kust. Er is verder niets bekend over dit schip. In de jaren 1870-1872 is een tweede West-Hinder gebouwd door scheepswerf Cockerill, toen nog gevestigd in Antwerpen. In de nacht van 12 op 13 december 1912

woedde er een zware storm op de zuidelijke Noordzee. Op de rede van Vlissingen bevond zich het Duitse stoomschip ss Eksbatana met zijn sleep, de lichter Minnie. Met een zeeloods aan boord vertrok het schip naar Engeland. De loods was de vader van de kapitein van de West-Hinder. Normaal gaat bij slecht weer de loods mee tot in Engeland. Maar om de loodskosten te besparen werd de loods reeds in Blankenberge terug aan wal gezet. Al snel daarna ging het fout. De Eksbatana kwam te dicht bij de WestHinder. Door de daar aanwezige zware stroming werd de lichter gegrepen en tegen het lichtschip geduwd. De Minnie bleef aan het lichtschip hangen. De

kapitein van de WestHinder liet het anker lichten in de hoop van de Minnie los te komen. Doch dit lukte helaas niet. Even later verloor de West-Hinder zijn stabiliteit, kapseisde en zonk. Dit alles voltrok zich in een tijdspanne van 20 minuten. In 1912 kwam het tot een proces dat maar bleef slepen en door de oorlog volledig stil viel. Na de oorlog verklaarde de rechtbank te Antwerpen zich onbevoegd. De zaak werd overgedragen aan een Belgisch-Duits scheidsgerecht. In plaats van de geëiste 250.000 Bfr. werd slechts een klein bedrag uitbetaald. Als vergoeding is er wel een nieuw schip gebouwd in Duitsland. In 1928 is in Papenburg op de Jos Meyerwerf een



De Belgische kust in een atlas uit 1938. Bij de Wandelaar is een lichtschip getekend. Links boven bevindt zich de West-Hinderbank. Daar lag in die tijd ook een lichtschip, maar die positie valt buiten de kaart. De stations Wielingen en Paardemarkt waren al opgeheven (Collectie Michaël Maerckaert)

nieuwe West-Hinder opgeleverd, vrijwel identiek aan de lichtscheperen uit Hoboken.

## De Tweede Wereldoorlog

In de jaren dertig bezat het Bestuur van het Zeewezen drie lichtscheperen: de in Hoboken gebouwde nummers 2 en 3 en de in Papenburg gebouwde nummer 4. Twee van de drie werden uitgelegd resp. bij de Wandelaarbank en de West-Hinderbank, de derde lag in het Zeewezendok te Oostende voor onderhoud of herstel. Over de gebeurtenissen tijdens de eerste oorlogsdagen zijn de diverse bronnen het niet met elkaar eens. De meest waarschijnlijke toedracht is volgens ons als volgt: op 1 oktober 1939, na het uitbreken van de oorlog tussen Duitsland en Polen, werden de dienstdoende lichtscheperen binnengehaald. Begin april 1940 werd op verzoek van de zeevarenden de Wandelaar teruggelegd op zijn positie. Vermoedelijk was dit lichtschip het nummer 4, dat als reserve dienst deed. Op 24 april 1940 liep het schip averij op en werd het de haven van Oostende binnengesleept voor herstel. Begin mei 1940 werd het schip teruggelegd. Op 10 mei vielen de Duitse troepen België binnen en kort daarna werd de Wandelaar op zijn ankerplaats tot zinken gebracht.

De overgebleven lichtscheperen werden op 18 mei 1940 weggesleept vanuit Oostende richting Dieppe, om ze in veiligheid te brengen. Lichtschip nummer 3, de andere Wandelaar, werd door stoomloodsboot 11 op sleep genomen. Stoomloodsboot 12 ontfermde zich over lichtschip nummer 2, West-Hinder. Kort na het vertrek brak de sleeptros van de stoomloodsboot 11 en liep de Wandelaar vast op de Broersbank. Bij het keren van het tij kwam het schip los en strandde vervolgens op de kust vóór Mariakerke. In december 1940 deed de bezetter pogingen om het schip vlot te trekken doch die mislukten. In maart 1941 werd het schip naar Oostende gesleept om het op te knappen. Het lichtschip werd van vijf luchtafweerkanonnen voorzien en als observatiepost uitgelegd ter hoogte van Blankenberge onder de naam Zephyr. In februari 1942 werd het schip door bommenwerpers van de R.A.F. gekelderd.

Op 19 oktober 1939 verscheen in de Zondagsvriend het bovenstaande bericht. Op de foto zijn van voor naar achter te zien: de in Hoboken gebouwde lichtscheperen 3 (Wandelaar) en 2 (West-Hinder) en het in Papenburg gebouwde lichtschip nummer 4 (West-Hinder/reserve).



Op dit routekaartje van de Stoomvaart Maatschappij Zeeland zijn langs het traject Vliissingen – Folkestone drie Belgische lichtscheperen weergegeven: Wielingen, Wandelaar en West-Hinder. In de periode 1882 tot 1920 zijn deze drie lichtscheperen tegelijkertijd actief geweest. Het kaartje dateert dus ergens uit deze periode (Collectie Spoorwezmuseum Utrecht)

De refis van de West-Hinder vanaf 18 mei 1940 verliep heel anders, maar niet minder desastreuus. Op sleep richting Dieppe werd het schip ter hoogte van Duinkerke en Calais door Duitse vliegtuigen bestookt. Het schip had 115 personen aan boord: bemanning en familie. Via Dieppe en Le Havre bereikte de stoomloodsboot met zijn sleep op 21 mei de haven van Ouistreham. Op bevel van de Franse marinecommandant mocht de West-Hinder de haven niet meer verlaten. Het was niet mogelijk het lichtschip door het kanaal aldaar te slepen, daar men niet over een tweede sleper beschikte om aan de achterzijde van het schip de sleep bij te sturen. De stoomloodsboot 12 is alleen verder gevaren naar St. Malo. De West-Hinder werd op 31 mei door de Zeeleeuw uit Ouistreham naar Cherbourg gesleept. Daar werd het lichtschip door de Franse marine tot zinken gebracht. Later werd het door de Duitsers gelicht. Het verdere lot van het schip is niet bekend. Het

Bestuur van het Zeewezen vond het na de oorlog niet meer terug. Al met al was er in 1945 dus geen enkel Belgisch lichtschip meer over.

Michaël Maerckaert

NEPTUNUS DECEMBER-DECEMBRE 2011

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**Inséré le 25/07/12 Boeken Livres Books Enlevé le 25/08/12**

## **B O E K B E S P R E K I N G**

**Door : Frank NEYTS**

### **“Alles in de wind “**

Bij Uitgeverij De Alk verscheen onlangs een interessant boekje onder de titel **“Alles in de wind... Het verhaal van een schipperskind”**. **“Alles in de wind”** gaat over een schipperskind. De jeugd van Ina Deurwaarder speelde zich af aan boord van de motorspits **Orion**. Op zevenjarige leeftijd verhuisde ze naar haar grootouders. Na slechts enkele jaren naar school te zijn geweest werd de twaalfjarige Ina teruggehaald naar boord om als oudste kind mee te helpen in de huishouding. Toen was de oorlog inmiddels uitgebroken. Nadat ze hun schip in 1944 noodgedwongen hebben verlaten vond het gezin onderdak in de buurt van Eefde, waar het woonde in een kippenshuur. In die omgeving leerde Ina haar toekomstige man kennen met wie ze in 1953 naar Canada emigreerde. Dit boek schetst een beeld van een schippersgezin in crisistijd en de daarop volgende oorlogsjaren. Een ruim tachtigjarige vrouw kijkt terug op haar jeugd, haar worsteling met haar streng orthodoxe opvoeding en de drang naar vrijheid die ze uiteindelijk vond in Canada. De oorspronkelijke Engelse tekst werd vertaald en bewerkt door Harry de Groot.

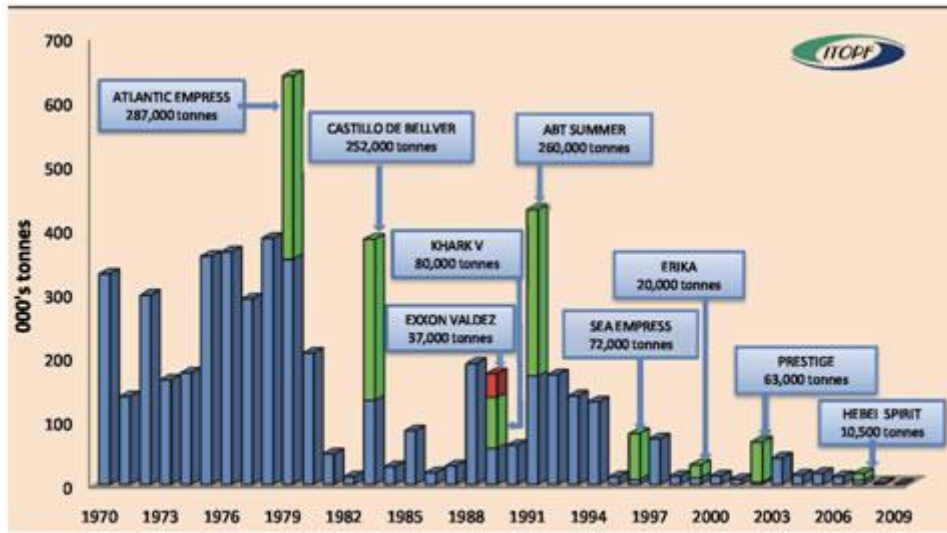
**“Alles in de wind”** (ISBN 978 90 6013 333 0) werd op handig formaat uitgegeven en telt 144 pagina's. Het boek kost 19.90 euro. Aankopen kan via de boekhandel of rechtstreeks bij de Uitgeverij De Alk, Postbus 9006, 1800 GA Alkmaar, Nederland. Tel +31.(0)72.511.39.65. internet: [www.alk.nl](http://www.alk.nl) 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 27/07/12 OPEN FORUM Enlevé le 27/08/12**

### **Number of oil spills continues to decline**

Lack of recent major oil spills has significantly reduced the overall figures on the quantity of oil spilled.



Quantities of oil spill (over 7 tonnes) from 1970 to 2009

Source: ITOPF.

For the first time since the International Tankers Oil Pollution Federation (ITOPF) began collating tanker spill statistics, no major oil spills were recorded from tankers last year and the total was the lowest in history, the federation said.

Defined as 700 tonnes or greater (> 5,000 barrels), the number of major spills from tankers had consistently been reducing over recent years, such that the average number of major spills for the decade (2000-2009) is about three. This was less than half of the average for the 1990s and just an eighth of the average for the 1970s.

The same was true for medium sized spills from tankers (from seven to 700 tonnes, or 50 – 5,000 barrels) where the average number of spills occurring in the last decade was 14, half of that experienced during the previous decade. Consistent with the reduction in the number of oil spills from tankers, the volume of oil spilt also showed a marked reduction. In some cases, the total quantity of oil spilt in the last decade was less than had been spilt previously in a single year.

Position	Shipname	Year	Location	Spill Size (tonnes)
1	ATLANTIC EMPRESS	1979	Off Tobago, West Indies	287,000
2	ABT SUMMER	1991	700 nautical miles off Angola	260,000
3	CASTILLO DE BELLVER	1983	Off Saldanha Bay, South Africa	252,000
4	AMOCO CADIZ	1978	Off Brittany, France	223,000
5	HAVEN	1991	Genoa, Italy	144,000
6	ODYSSEY	1988	700 nautical miles off Nova Scotia, Canada	132,000
7	TORREY CANYON	1967	Scilly Isles, UK	119,000
8	SEA STAR	1972	Gulf of Oman	115,000
9	IRENES SERENADE	1980	Navarino Bay, Greece	100,000
10	URQUIOLA	1976	La Coruna, Spain	100,000
11	HAWAIIAN PATRIOT	1977	300 nautical miles off Honolulu	95,000
12	INDEPENDENTA	1979	Bosphorus, Turkey	95,000
13	JAKOB MAERSK	1975	Oporto, Portugal	88,000
14	BRAER	1993	Shetland Islands, UK	85,000
15	KHARK 5	1989	120 nautical miles off Atlantic coast of Morocco	80,000
16	AEGEAN SEA	1992	La Coruna, Spain	74,000
17	SEA EMPRESS	1996	Millford Haven, UK	72,000
18	NOVA	1985	Off Kharg Island, Gulf of Iran	70,000
19	KATINA P.	1992	Off Maputo, Mozambique	66,700
20	PRESTIGE	2002	Off Spanish coast	63,000
35	EXXON VALDEZ	1989	Prince William Sound, Alaska, USA	37,000

Major oil spills since 1967

Source: ITOPF.

Nevertheless, there was obviously considerable annual variation in the incidence of oil spills and the amounts of oil lost, as a single major incident can severely distort the statistics for a particular year. Indeed, the recent collision between a tanker and a tug towing

barges in Texas, meant that the record for 2009 will not be maintained; such is the unpredictable nature of accidents.

However, the statistics for the last decade reflected the downturn in accidental spills from tankers that had been evident since the end of the 1970s. This reduction can largely be attributed to the combined efforts of the oil/shipping industry and governments (through the IMO) to improve safety and pollution prevention, ITOPF said.

## Minor spill problems

Against a background of a declining number of major tanker spills, smaller operational spills and bunker spills from non-tankers continued to occur. "In our experience, even minor incidents can generate significant claims for environmental damage and economic loss, many of which can require a substantial contribution from ITOPF staff and ensure that we remain busy", the organisation explained.

ITOPF's figures include spills from tankers, combined carriers and barges and take into account – accidental – spills and not those caused by acts of war, such as was seen in the Middle East Gulf during the Iran/Iraq conflict.

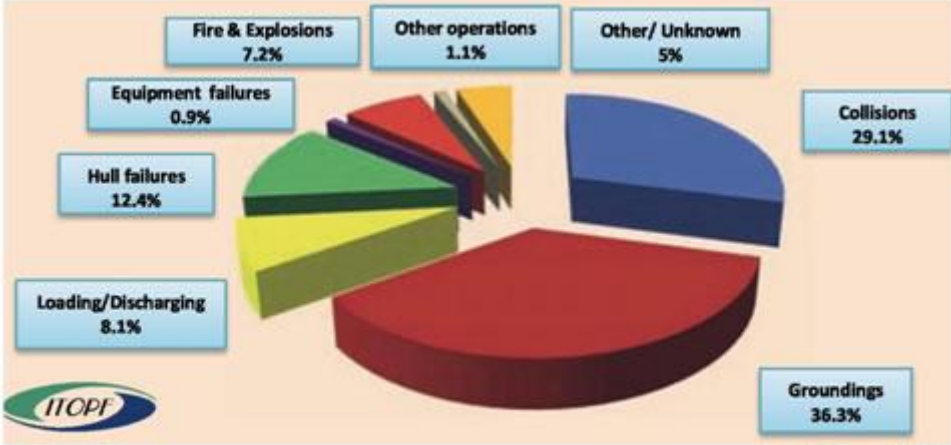
Information is held on almost 10,000 incidents with the majority of spills being in the smallest category, ie plus or minus seven tonnes. However, information on spills of more than seven tonnes tends to be more reliable, ITOPF said.

Of course one large spill can distort the figures as seen in the 1979 VLCC Atlantic Empress (280,000 tonnes), the 1983 Castillo de Bellver (252,000 tonnes) and the 1991 ABT Summer (260,000 tonnes) cases. By comparison, the Exxon Valdez grounding only amounted to a loss of 37,000 tonnes, putting her at No 35 on the list of the all time highest oil spills recorded by OCIMF.

The first major oil spill officially recorded concerned the Torrey Canyon, which grounded and broke into two off the Scilly Isles in 1967, resulting in a spill of 115,000 tonnes of crude oil.

There were several incidents on board VLCCs in the late 1960s and 1970s, however, these occurred while the vessels were in ballast and were put down at the time to a lack of knowledge on gas freeing.

### Causes of spills



Incidence of spills >700 tonnes by cause, from 1970 to 2009

Source: ITOPF.

Most incidents are the result of a combination of actions and circumstances, all of which contribute to a varying degree to the final outcome. ITOPF has analysed spills taking into account the primary event, or the operation underway at the

time of the incident.

The Federation found that most spills resulted from routine operations, such as loading/discharging and bunkering, which normally occur in ports, or at oil terminals. The majority of the operational spills were small with some 90% involving quantities of less than seven tonnes, the Federation said.

Accidental causes, such as collisions and groundings generally give rise to much larger spills with at least 84% of these incidents involving quantities of more than 700 tonnes.

TankerOperator

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**Inséré le 29/07/12 OPEN FORUM Enlevé le 29/08/12**

## **Are owners and charterers really that stupid?**

Much of IMO's thinking about regulatory alternatives for reducing CO2 emissions from ships is based on the assumption that shipowners have been slow to adopt measures which would increase fuel efficiency, even when such measures are economic\*.

For example, the Bahamas flag state said that unfortunately, due to various structural impediments in the industry, the high cost of fuel has not been the main driver for the adoption of these technical and operational measures.(1) This failure is variously ascribed to the fact that –

- Owners know their ships will spend a part of their lives, quite possibly a large part, under term or bareboat charter. While a ship is under term or bareboat charter, it is the charterer that purchases the fuel, and decides where and how fast the ship steams. Therefore, it is claimed the owner has no or at least greatly reduced motivation to invest in fuel saving technology.

The Bahamas in support correctly calls this a "key assumption" in the thinking of the IMO's Market Based Measures (MBM) working group. The MBM Working Group report repeatedly refers to "non-price barriers" which "restrict the uptake of fuel/energy operational and technical measures".

- Owners have the ability to pass through any increase in BFO cost to their customers in the form of higher freight or timecharter rates, therefore there's no point investing in saving. The Bahamian submittal puts it succinctly; "The high cost of fuel, although a significant factor, can be passed on through freight rates, or is paid by an external party and not the owner."(2)

This view is further supported by the fact that several influential studies have found that there is tremendous potential to cut fuel consumption at little or no cost by employing technologies that owners currently are not using. For example, the second IMO GHG Study 2009 said that CO2 emissions could be reduced 25% to 75% "...by using known technology and practices."(3) DNV claimed that measures exist which would reduce CO2 emissions from ships by 400 mill tonnes per year (about 26%), which have negative abatement costs, meaning if implemented, they would increase the owner's profits .(4) Therefore, DNV was forced to conclude; "The results of this study indicate the lack of responsiveness to economics as a driving factor for change". This has become received wisdom at the IMO.

### **The term charter issue**

Let's begin with the term charter issue. In any term charter, the shipowner must stipulate the ship's speed-fuel curve. The contract or charterparty then goes into considerable detail about what happens if the ship fails to perform up to the warranted fuel consumption. Basically, the owner pays for any fuel the ship uses above the charter party curve.

Prospective term charterers collect a batch of offers, each of which include not only a term charter rate but also a stipulated cargo capacity and a stipulated speed fuel curve. They run these offers through an analysis to determine which ship will meet their transport capacity at minimum cost. I operated large tankers for some 25 years and was involved in numerous T/C negotiations. I can assure you that speed/fuel was front and centre everytime. Here is a memo that I wrote to my troops in July, 2002. The memo was mainly in response to their moaning that our standard speed/fuel curves were unrealistic (translation: they had to work too hard to get the fuel consumption down to these levels) But it also makes the point of the importance of speed/fuel curves in winning term charters. Note: The Empress des Mer was a 1976- built ULCC owned by a competitor.



Notice that in at least one example cited the ship with the lower term charter rate did not get the business.

TO: hsc\_/ppd1, apb1, kis1

FROM: martingale/jack

RE: Consumption Curves in T/C description, Q88, MFIX etc

The speed-fuel curves in MFIX, T/C description, Q88 etc are, ME + 1 gen + sludge under ideal conditions. That is:

1. A fuel with an NCV of 42,707 kJ/kg.
2. Calm water, no wind.
3. Perfectly clean hull and propeller.
4. Main engine operating right on spec. In MFIX, we adjust this curve for actual NCV using the FO\_LOSS field. We also adjust for expected weather and current by leg using the SPD\_ADJ fields.

This curve serves as an achievable target. If we don't meet it after properly adjusting for NCV and weather, then something is wrong and we must find out what and fix it. We must not lower our standard. In almost all T/C's, this curve will be too optimistic since it will be warranted up to Beaufort

5. But for T/C purposes we want to over-specify the ship. When the potential charterers run our warranted curves through their algorithms to get equivalent unit (\$/t) transport cost, they will find that they can pay us a higher T/C rate than if we gave them a more conservative curve.

Most long term charterers must go with the ship that gives them the lowest equivalent unit cost. We will get more business at a higher TC rate. Of course, we will give some of that back in claims but the give back is always much less than the additional T/C revenue.

A classic case was the Embassy and Empress des Mer with Vela in 1990. The former using a conservative curve got \$39,000 per day and paid no penalties, while the latter using a ridiculously optimistic curve got \$41,000 per day and ended up paying \$250,000 in penalties.

The additional T/C revenue over the 4.5 year charter was about \$3.3 mill. Later the Empress finessed another ULCC Grand out of a one year KPC charter that, in a falling market, we desperately wanted. The brokers told us that the Empress was in at (from memory) \$26,000 per day and firm. So we went slightly lower and firmed.

The business went to the Empress at the higher TCE. Later I found out from KPC that the competitor had over-specified the ship by more than a knot over calm water speed. We had only over-specified the Grand by using calm water.

The KPC chartering manager told me that the Empress' speed-fuel curves were "really sexy". We too have to be 'really sexy'. The memo goes on to further berate the poor recipients for not meeting our fuel consumption targets.

The point of course is that term charterers know that for the length of the term charter they will be the effective owner of the ship and they want the cheapest ship for the fuel cost they expect to pay during the T/C.(5) Owner shenanigans aside they will do their damndest to get her.

## **Fuel cost - a weak driver**

DNV, the Bahamas, and much of the IMO hierarchy agree that fuel costs have been a disappointingly weak driver for fuel efficiency. But in my career as an owner, fuel costs have not only been a strong driver, they were the driver. We adjusted our steaming speeds almost weekly on the basis of the current spot rate and our BFO costs.

When the market was in boom, we were blasting along as fast as we could. When the market was in slump, we were going as slow as we could. We instituted all sorts of procedures to monitor fuel consumption, spent all kinds of time tuning the plants, hasseling the chief engineers when we were unhappy, etc and on occasion firing them.

The single biggest question we asked ourselves in specing new vessels is what was the BFO price going to be? One thing we did not worry about was whether or not the ship was going to be term

chartered. In fact, in all the voluminous correspondence leading up to an eight ship, half-billion dollar programme in 1999/2000, the subject never came up. For we knew any efficiency we could gain would be reflected in the T/C rate.

Herein lies the fallacy in the Bahamian claim that the fact that savings in costs eventually get passed on to shippers, means that owners have little motive to economise. But this competing away of savings only happens after the great bulk of the owners have implemented the savings. At that point, any owner who has not kept up will go broke.(6)

### **Survival is very strong motivation for most people.**

In the course of my career BFO went from \$50 to \$250 per tonne. And over that 30-year period, fuel consumption almost halved. The first ships I operated were 390,000 dwt ULCCs built in the late 1970's. They had a full speed fuel consumption of around 210 tonnes at 16 knots. The last ships I operated were 440,000 dwt ULCCs, which burned 121 tonnes at the same speed. The relative improvement at slow-steaming speeds was even higher.

The latter ships were designed in 1999/2000 to a BFO cost of a little over \$100 per tonne. If I were building a ship today, I'd use a design fuel cost of at least \$500 per tonne and probably higher, maybe as high as \$750, depending on what I thought IMO was going to do. Like every owner, I would invest in any fuel reduction measure that I thought was going to improve my bottom line at that price.

In our 1999/2000 newbuilding programme, we surveyed all the possibilities. And we ended up installing 'over-sized' engines and generators at the cost of close to \$2 mill per ship, in part because it allowed us to move down the engine's SFC curve toward the minimum SFC point (about 70% of MCR).(7)

We went through all the hydrodynamic devices, pre-swirl, post-swirl, etc. I became entranced with something called a propeller boss fin. The vendors claimed it would save 2% to 3% or more. You'll see the same numbers or higher in IMO documents.(8) The device only cost \$40,000 so even at \$150 per tonne, all I had to do was save 300 tonnes of fuel to pay for it, less than three days MCR steaming for the ULCC. It seemed to me it might work, so I studied it carefully. However the more I got into it the less support I found for the claims.

At the end of the day, I couldn't be sure if the gadget was going to save me fuel, or cost me fuel. We didn't invest in the boss fin, but it wasn't because we were stupid or lazy, or we were going to pass the cost of the fuel on, or the ship was going to be timechartered. If the device gave us a competitive advantage, we would get the savings.

So we have a disconnect. I claim owners will jump on anything that they think will make them money. IMO and others believe the owners are "unresponsive to economics".

There are two reason for this dichotomy:

#### *1) The potential savings are grossly exaggerated.*

Much of the savings that some IMO studies point to simply don't exist, or are unproven, unsafe or not economic even at today's BFO price. Take all the propeller flow modification devices. Most of them have been around for 20 years or more.

The problem is separating vendor claims from actual performance. Model tests are indicative but not quantitatively reliable for these devices both because of scale effects and the artificial conditions in the towing tank. Full scale tests are even harder.

If a device does save a percent or two, it will be almost impossible to see in any but long term, carefully monitored experiments. Speed goes as power to the 1/3 or less. So a 3% saving will show up as less than a 1% increase in speed at a given power. This is difficult to measure under the best of conditions. But to make matters much worse, we almost never have the best of conditions. The savings, if they exist, will be dominated by all sorts of other variables, including loading pattern, hull and propeller condition, and weather. To do the necessary experiments to really determine the savings would be a very expensive proposition; so they are simply not done. We are left with vendor claims and anecdotal evidence.

Despite this, in something of a leap of faith, owners are investing in some of the more promising devices. Some 80 vessels have been built with the Kawasaki rudder bulb system, a post-swirl device. Others have fitted pre-swirl devices. If these gadgets really work, the word will get out and the owners will be happy to pay for them. But if the savings were anything like what IMO studies sometimes claim, this would already be obvious.

Other technologies that are offered as evidence of owner unresponsiveness are either imprudent, or unproven. (10) Contra-rotating props fall in the imprudent category at least for single screw ships. There is little doubt that a properly designed contra-rotating propeller could save at least 8% on most ship types. For a VLCC the extra initial cost will be around \$2 mill, for a payback of less than a year at full power. Unfortunately, contra-rotating props require complex epicyclic gearing and inter-shaft bearings.

They are inherently far less reliable than a standard VLCC shaft and propeller and would be a maintenance nightmare. No prudent owner could spec contra-rotating props on a single screw tanker. Yet most IMO studies blithely include contra-rotating props in their lists of potential savings, usually with a number like 12%, or 14%. Clearly, unproven technologies, such as air cavities, are also included in most lists, often with an unsubstantiated savings of 15%.<sup>10</sup>

When you take a realistic look at fuel savings measures, as owners must, the savings are far smaller than IMO thinks and more expensive. Greenship.org,<sup>(11)</sup> a group that generally takes an optimistic view of the potential for vessel emissions reductions, studied a 35,000 dwt drybulk carrier to which they fitted just about every device applicable and ended up with a 7% decrease in CO<sub>2</sub> emissions at an additional cost of about \$5 mill, or 20% of the current newbuilding price.<sup>(12)</sup>

When Green Ship repeated this exercise for an 8,500-TEU containership, they came up with a savings of 11% to 14% at a cost of €10 mill (about 10% of current newbuild price).

## *2) The 10 to 20 year newbuilding lag.*

Much of the prudent, feasible, economic savings that do exist have a 10 to 20 year lag before they are fully implemented in the fleet.

For example, advanced waste heat recovery (WHR) is now clearly economic on a large tanker. For an investment of about \$1.3 mill, it is possible to extract enough energy from the cooling water and stack gas to support a 1,000 kW generator. For a VLCC the savings in fuel is four or five tonnes per day. At \$500 per tonne, a pay back period of less than two years.

## **Systems installed**

Owners are now flocking to install these systems on their newbuildings. In August, 2010, Wärtsilä counted 81 large vessels, including 33 VLCCs that have ordered Wärtsilä's version of WHR. <sup>12</sup>

The problem is that this sort of investment only works for newbuildings. The really big jump in BFO prices took place in 2005 through 2007, which means that the effect will not start showing up in the fleet afloat until 2007 to 2009 and will take 20 plus years before the fleet is fully made up of VLCC's with advanced WHR. To put in another way, much of the negative abatement cost reductions identified by DNV and others actually do exist; but only since the big BFO price jump starting in 2005. Owners are responding to this jump in fuel cost about as quickly as they can.

The polite bureaucratese talks about "lack of responsiveness to economic conditions" and the like. Of course, what they are really saying is charterers and owners are too stupid to run their enterprises in an intelligent manner. I ran big tankers for 25 years. I know term charterers are not stupid; they know the difference between a fuel efficient ship and one that is not. I know owners aren't stupid. I know they try to search out every fuel saving that makes sense.

## **Hero or villain?**

As an employee, you want to be a hero to a shipowner? Save him some fuel and marry the owner's daughter. We can have a valid debate about the best way to regulate CO<sub>2</sub> emissions from vessels. But that debate must not be based on misconceptions. The belief that owners and charterers are unresponsive to fuel cost is a misconception. TO

\*This is an extract from a paper written by Jack Devanney of the Center for Tankship Excellence. The full paper can be found at <http://www.c4tx.org/ctx/pub/>

Footnotes:

1. Need and Purpose of an MBM, GHGWG 3/2, 2010-12-22, submitted by the Bahamas, page 1
  2. i bid, page 2
  3. Second GHG Study 2009, MEPC 59/24/Add. 1, 2009-04-09, page 10
  4. Det Norske Veritas, Pathways to Low Carbon Shipping, 2009-12-15
  5. Another misconception that sometimes surfaces at the IMO is that a term chartered ship won't slow steam as much as a ship in the spot market, especially if the TC rate is high. It turns out that a term charterer faces exactly the same short-run optimization problem in minimising transport costs as a spot owner does in maximising profits. See 2. The Impact of Bunker Prices on VLCC Rates for a proof. From the point of view of the charterer's speed decision, the TC hire is a sunk cost.
  6. This is the core reason competitive markets are efficient. The Bahamian statement shows little understanding of how competitive markets work. The same thing can be said of much of IMO's deliberations on CO2 reduction.
  7. EEDI will effectively prohibit owners from doing this.
  8. Second IMO GHG Study 2009, page 172 says 4%.
  9. Stangely the most exciting and impactful recent technology is almost never mentioned, and that is the switch from camshaft to electronically controlled main engines. Not only does this result in a flatter SFC curve but more importantly allows ships to operate down to 20% power continuously. Camshaft controlled engines can only operated down to about 50% power. For tankers, this means that, when the market is in deep slump, we will have the entire fleet operating at 9 knots, rather than 75% of the fleet operating at 12 knots, and the other 25% laid up.
  10. Most such lists also include "speed reduction" as a CO2 abatement measure, often with a 25% savings number. Slow-steaming is not a measure; it is a reaction. The reaction depends on the current fuel cost, spot rate and the ship's speed/fuel curve. It's happening all the time. If you want more of it, simply increase the owner's fuel cost.
  11. Schack, C, Green Ship of the Future, Asia-Pacific Maritime, Singapore, March, 1010.
  12. Antonopoulos, D, Ship Power Merchant, August, 2010.
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## **Seafrance scrappers illegally exported?**

### **Les navires en fin de vie**

Environment organisations have today called on the French government to repatriate two retired SeaFrance ferries which they claim were illegally exported to India for demolition. Brussels-based NGO Shipbreaking Platform and France's Robin des Bois said the former **SeaFrance Cezanne** (renamed **Western Light**) and the former **SeaFrance Renoir** (renamed **Eastern Light**) were exported from Dunkirk on 7 October and 20 September respectively, without having been fully decontaminated.



Above seen the 1980 built BLZ flag ferry **WESTERN LIGHT** formerly **SEAFRANCE CEZANNE** off Grand Harbour, Malta on Friday 21st October, 2011.

In a letter to the French environment minister, Nathalie Kosciusko-Morizet and European Union environment commissioner, Janez Potocnik, the groups said the French Government has failed to respect the Basel Convention on the movement and disposal of hazardous waste. The letter calls on French authorities to urgently contact their Indian counterparts and prevent the demolitions proceeding. The NGOs argued the two ro-ros were effectively owned by the French state via SeaFrance's owner, SNCF, and ferries should be taken an OECD member country for demolition. The environment groups said there was a precedent for repatriating ships destined for demolition, as five years ago the French authorities brought French aircraft carrier **Clemenceau** back from India. **Source: Fairplay**

L'association Robin des bois s'inquiète de la situation de deux anciens ferries de SeaFrance, vendus cet été par



la compagnie française à d'obscures sociétés apparemment enregistrées au Panama. Rebaptisés respectivement Eastern Light et Western Light, les ex-SeaFrance Renoir et SeaFrance Cezanne pourraient bien terminer chez les démolisseurs indiens. « Après avoir navigué brièvement en Méditerranée et être revenu en mer du Nord du côté de Zeebrugge à la mi-octobre, le Eastern Light est aujourd'hui en vue d'Alang où il attend son feu vert pour la démolition. Le Western Light, après hésitation, a franchi le canal de Suez et se

trouverait du côté d'Aden », indique Robin des Bois, qui dénonce depuis des mois le risque de voir ces bateaux partir à la casse en dehors de l'Europe, notamment l'ancien Renoir, qui contient de l'amiante.

De son côté, Mor Glaz réclame « le retour immédiat de ces deux déchets, afin qu'ils soient déconstruits en France dans le respect de l'Homme, du droit social et de l'environnement ». L'association fustige cette situation, d'autant que SeaFrance est une filiale de la SNCF, un groupe public, et que l'Etat s'est préoccupé de la question du démantèlement des vieux navires contenant des déchets toxiques. « La France, malgré toutes ses déclarations est bien comme les autres pays incapables de respecter ses engagements et ses écrits. Dans ce cas bien précis elle devait se douter (ou alors quelle naïveté) que ces navires partaient à la casse car ça se passe toujours comme ça, en catimini ». Une position que partage Robins des Bois : « En dépit de la réglementation européenne sur l'exportation des déchets et des discours officiels vertueux, la fuite des navires européens vers les chantiers asiatiques continue. Le même tour de passe-passe se répète inlassablement : vente miracle à un "armateur" fantôme non européen, repavillonnage sous des couleurs complaisantes et mise à la casse incognito. Au-delà des déclarations d'intention, l'exemplarité des Etats fait une nouvelle fois défaut ». Pour mémoire, les Cézanne et Renoir ont été construits en 1980 et 1981, SeaFrance les ayant désarmé en 2009.

## Les navires en fin de vie

Les navires sont des structures mobiles en majorité construits avec de l'acier. En fin de vie, ils constituent une source importante de métaux ferreux et aussi non ferreux à recycler. Ils contribuent à épargner les ressources naturelles non renouvelables comme le minerai de fer. 80% de l'acier produit par le Bangladesh provient de la deuxième fusion des ferrailles produites par les chantiers de démolition navale. L'acier de deuxième fusion économise 70% de l'énergie nécessaire au cycle de l'acier de 1er fusion. Pourtant, il n'y a pas d'accord juridique de portée régionale ou internationale sur le cycle de vie des navires depuis le chantier de construction jusqu'à un chantier de déconstruction, à la différence de ce qui se pratique ou s'ébauche pour d'autres biens comme les voitures. La fin de vie des avions souffre des mêmes vides juridiques et techniques que celle des bateaux. L'Organisation Maritime Internationale est en cours d'élaboration d'une convention spécifique sur le démantèlement des navires qui selon les plus optimistes pourrait être soumise à la ratification des états-membres à partir de 2008.

L'âge moyen des navires marchands et militaires partant à la casse se situe autour de 30 ans. Il est prévu qu'il se situera autour de 20 à 25 ans dans les années qui viennent. Plusieurs facteurs expliquent cette évolution probable :



- des contraintes réglementaires sur le retrait obligatoire de certaines catégories de navires, comme les pétroliers à simple coque,
- la moins bonne qualité de construction dans les chantiers navals modernes,
- sauf exception, l'exploitation à marche forcée qui contribue à une dégradation accélérée et à une espérance de vie raccourcie des navires.

Ces dernières années le tonnage global de navires déclarés ferrailés est environ de 3 millions de tonnes correspondant à environ 500

unités. Les chiffres de 1200 par an annoncés dans le contexte de l'épisode *Clémenceau* correspondent aux statistiques des années 1995-2000 ou aux prévisions des années 2010-2015. Le marché est resté déprimé malgré le retrait au milieu de l'année dernière de certains pétroliers à simple coque.

Les principaux pays casseurs de navires sont l'Inde, le Bangladesh, le Pakistan, la Chine, puis la Turquie, le Mexique, et enfin l'Espagne et les Pays-Bas. D'autres pays asiatiques comme les Philippines ont pour ambition

de se doter d'un outil de destruction navale. L'Afrique est pour le moment hors circuit, mais il se pourrait que suite aux projecteurs braqués sur les chantiers asiatiques et aux à-coups juridiques et médiatiques, des casses ou des regroupements de navires hors d'usage apparentés à des chantiers de démolition ou à des zones d'attente soient générés autant en Afrique de l'Est qu'en Afrique de l'Ouest.

Les plages d'échouage en Inde et surtout au Bangladesh qui est spécialisé dans les plus gros navires (plus de 200 m de long) bénéficient d'une forte amplitude des marées qui facilite l'échouage en haut de plage. Deux sortes de navires y font leur dernier voyage :

- Les navires « actifs » qui s'échouent par leurs propres moyens de propulsion et qui conservent jusqu'au dernier moment leurs capacités de navigation ; ces navires ne font jamais l'objet d'une dépollution préalable et séjournent longtemps en zone d'attente spéculative à Singapour ou dans un pays voisin prêt à se diriger pour son voyage ultime vers le plus offrant des chantiers, qu'il soit en Inde, au Bangladesh, en Chine ou au Pakistan. Ils conservent jusqu'au bout des certificats de navigabilité décernés par des sociétés de classification et ne peuvent pas dans le cadre d'une dépollution préalable être privés du calorifugeage en amiante de leurs chaudières ou d'appareillages électriques éventuellement contaminés aux PCB, molécules toxiques persistantes et chlorées utilisées comme isolant thermique dans les condensateurs. Le plus connu en Europe de ce type de bateaux est le *Prestige*. Après avoir servi pendant quelques mois de stockage flottant près de Saint-Petersbourg, il a chargé pour son dernier affrètement du fuel lourd russe à destination d'une centrale thermique de Singapour. S'il y était arrivé, il aurait par la suite été démolé dans un chantier asiatique.

- Les navires « passifs » qui sont remorqués par exemple depuis l'Europe du Nord comme le *Clémenceau*. Ces navires pourraient faire l'objet d'une décontamination préalable. Ils sont au contraire laissés en l'état, avec les poubelles, boues de sanitation et boues de cale et autres matériaux ou objet amovibles, résultant de l'exploitation et du laisser-aller inhérent aux biens dont il est prévu de se débarrasser ou résultant d'avaries graves comme l'explosion d'une chaudière et la dispersion consécutive de l'amiante friable subie par le *Norway*. Le *Clémenceau* est à notre connaissance le seul navire à avoir subi une dépollution préalable en ce qui concerne l'amiante et les polychlorobiphényles (PCB) avant son remorquage vers un chantier de démolition.

**Les matières toxiques** pour l'homme et l'environnement intégrées à la structure des navires ou embarqués au titre des équipements et accessoires ou encore issues de l'exploitation et de la maintenance des navires sont

- l'amiante friable dans les points chauds comme les chaudières ou les cheminées,
- l'amiante lié à d'autres matériaux dans le cadre des précautions anti incendie, le plomb en particulier présent dans les batteries et accumulateurs, les peintures extérieures et intérieures, les tuyauteries, le mercure dans les néons et autres accessoires électriques,
- les boues et eaux polluées dans les fonds du navire contaminées par des métaux lourds, des huiles noires, des graisses et des égouttures de carburants. Au moment du dépeçage du navire, elles ont tendance à augmenter sous l'effet de la pluie ou des eaux d'extinction ou d'arrosage utilisées pour prévenir ou combattre des incendies,
- les eaux des citernes à ballast susceptibles de transporter des planctons toxiques et des espèces invasives et exogènes, des virus et des bactéries, ou des biocides visant à éradiquer ces passagers clandestins ; elles contribuent souvent à des perturbations des écosystèmes régionaux ou continentaux,
- les PCB présents dans la câblerie, les mastics, les feutres, les condensateurs ; les PCB en système ouvert ou en système clos émettent des dioxines en cas d'incendie,
- les polychlorures de vinyle (PVC) largement utilisés à bord des navires dans des applications multiples. En cas d'incendie, ils génèrent des vapeurs mortelles d'acide chlorhydrique et eux aussi des dioxines. Il est donc par principe important qu'ils soient extraits de la coque des navires avant de procéder au découpage par chalumeau à flamme,
- les gaz ou les liquides servant à la climatisation et à la réfrigération comme l'ammoniac et les CFC ; ils sont à la fois un danger pour les acteurs de la démolition et pour l'environnement atmosphérique,
- des bonbonnes de gaz, vieux fûts de peintures, de lubrifiants ou de liquides anti-gels avariés et périmés entassés sur le pont ou dans les coursives,
- les sources radioactives telles que les détecteurs de fumée ou des jauges d'évaluation des niveaux dans les citernes ou de vérification des soudures,
- les extincteurs,
- des déchets d'équipements électriques et électroniques ayant servi à la navigation et à la communication du navire et qui sont théoriquement interdits à l'exportation vers l'Asie,

- les compacteurs et incinérateurs de déchets embarqués et intégrés à certains navires comme les navires à passagers ; ils présentent des risques divers, bactériologiques et toxiques (résidus, cendres, réfractaires, suies).

A titre d'exemple, suit l'inventaire fait par la Norvège des toxiques à bord d'un pétrolier prêt à partir à la casse avec un poids lège de 37.500 tonnes :

- plomb (batteries + anode) : 232,4 kg
- cadmium (anode dans le cadre de la lutte contre la corrosion): 120 kg
- acide sulfurique : 44 litres
- peintures anti-salissures : 24 tonnes dont 1.200 kg de principe actif biocide-tributylétain
- gaz réfrigérant CFC : 900 kg
- amiante : 8 t
- PVC : 10 t
- condensateurs : 24 kg dont 14 g de PCB
- néons : 100 kg dont 15 g de mercure
- fuel lourd : 333 m3
- huiles hydrauliques : 18 m3
- lubrifiants : 20 m3
- boues d'hydrocarbures : 1.820 m3



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**La démolition.** Malgré la définition, l'adoption et la diffusion de directives sur la sécurité et la santé, et leur traduction en bengali, en chinois, en turc et dans des dialectes régionaux, malgré des assistances techniques bilatérales Canada/Inde, Etats-Unis/Bangladesh et dans une certaine mesure France/Inde dans le cadre du *Clémenceau*,

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malgré les efforts promotionnels de la Chine dans le cadre du programme "Clean Recycling of Ships in China" et des initiatives positives prises depuis environ 4 ans dans les autres places fortes asiatiques à l'exception peut être du Pakistan, il n'y a pas en Asie de chantiers digne du "Green Recycling". Ce recyclage écologiquement rationnel, tel que pressenti par les institutions internationales, Organisation Maritime Internationale (OMI), Convention de Bâle, Organisation Internationale du Travail, les sociétés de classification, des armateurs et les organisations nationales ou internationales non gouvernementales s'appuie sur quelques principes simples quoique coûteux:

- l'imperméabilisation des sols de l'emprise
- la collecte séparative des liquides pollués
- la collecte et le confinement des hydrocarbures
- le tri et le stockage-tampon des différents emballages et matériaux toxiques solides
- l'inertage ou la ventilation systématique des citernes et des locaux confinés à atmosphère explosible
- la mise en oeuvre d'autres techniques que les chalumeaux à



flamme pour pré-découper les navires

- la mise en oeuvre d'un plan particulier de dépollution et de ferrailage du navire conforme à l'inventaire et à la cartographie des zones à risques préalablement réalisés par le dernier détenteur du navire
- la disponibilité à l'aval de la filière d'une aciérie équipée de filtres à manche ou d'autres dispositifs de réduction des effluents atmosphériques de manière à ce que les métaux lourds des peintures anti-salissures ne soient pas relargués dans l'environnement.
- la disponibilité à l'aval de la filière de centres de traitement ou de régénération des hydrocarbures et de centres de stockages des déchets solides ou pulvérulents issus de la dépollution.

Encore faudrait-il que ces installations industrielles soient acceptées par les riverains – les organisations qui s'opposent au recyclage du *Clémenceau* en Inde sont les mêmes qui s'opposent en Angleterre depuis 3 ans au recyclage de 4 vieux navires de l'US Navy qui auraient pu être envoyés pour dépeçage au Bangladesh ou immergés –, et qu'elles soient ouvertes sur un port en eau profonde pour être en mesure d'accueillir des bateaux de plus en plus longs avec des tirants d'eau de plus en plus profonds.



Une des tranches  
du voiturier le  
*Tricolor* à  
Zeebrugge

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Ni en Asie, ni aux Etats-Unis, ni en Europe, de tels chantiers n'existent alors que des technologies novatrices ont déjà fait leurs preuves dans des conditions extrêmement difficiles, à savoir le découpage sous-marin du *Tricolor* (190 m de long) coulé au large de Dunkerque en décembre 2002 à la suite d'une collision et découpé grâce à des câbles abrasifs en 9 rondelles sous-marines qui ont été par la suite remontées à la surface, disposées sur des barges et affinées dans un chantier classique aux Pays-Bas. Cette opération pionnière, déjà réalisée aux Etats-Unis dans des conditions moins difficiles, a été financée par l'armateur norvégien Wallenius Wilhelmsen et son pool d'assurances (photo page suivante).

D'autre part, une évolution favorable est en cours dans la construction des navires de commerces.

Des protocoles et des conventions dont les champs d'application sont mondiaux interdisent désormais la fabrication et l'utilisation des PCB et des gaz au fréon (CFC). L'interdiction des peintures anti-salissures au tributylétain devrait être effective à partir de 2008 dans les chantiers de construction et de réparation navale. Une ensemble de technologies innovantes et moins polluantes participe aujourd'hui à l'éco-conception des navires. Il reste à vérifier qu'elles sont mises en oeuvre par l'ensemble des chantiers navals. Pour l'amiante qui représente un risque majeur pour la santé des différents intervenants, la situation est paradoxalement plus contrastée. Seuls 28 états ont interdit tous ses usages. La production et le commerce de l'amiante restent autorisés en particulier dans tous les pays spécialisés dans la casse des gros navires de commerce et de pêche, ce qui à l'évidence ouvre la voie à la réutilisation de l'amiante récupérée dans les navires en cours de démolition et souligne la voie de progrès du chantier d'Alang, qui s'était engagé en liaison avec un spécialiste indien de la gestion des déchets à enfouir dans des alvéoles dédiées l'amiante résiduel du *Clémenceau*.

## **La réglementation internationale.**

Il n'y a pas d'instrument international pertinent qui régit la fin de vie des navires. On trouve ici ou là des annexes, des listes, des paragraphes sans queue ni tête.

La convention de Bâle sur les mouvements transfrontaliers de déchets entrée en vigueur en 1992 n'a pas été élaborée en fonction du cycle de vie des navires et autres véhicules comme les avions et les matériels roulants ferroviaires ou routiers. Elle a été conçue pour éviter les exportations de déchets industriels depuis les pays producteurs vers les pays sans capacité de gestion de ces déchets après des scandales de la décennie 1980-1990 dans lesquels de nombreux producteurs européens ou américains et des navires sous pavillon de complaisance ou sous-normes ont été impliqués en tant que vecteurs de transport. L'article 1er dit que les déchets provenant de l'exploitation d'un navire et dont le rejet fait l'objet d'un autre instrument international sont exclus du champ d'application.

Cet « autre instrument international » mentionné par la convention de Bâle est la Convention Marpol placée sous le contrôle de l'Organisation Maritime Internationale. Dans le cadre de cette convention, chaque pays impliqué dans le trafic maritime, dont le segment de la démolition navale, doit se pourvoir d'installations de réception des déchets d'hydrocarbures et des autres déchets d'exploitation.

Une 3ème institution internationale -l'Organisation Internationale du Travail- est impliquée dans le thème de la déconstruction navale à travers ses conventions cadre sur les conditions de travail, par exemple la convention 162 relative à l'amiante qui n'a pas encore été ratifiée par beaucoup de pays européens dont la France (référence octobre 2005). L'OIT a publié en 2004 un ensemble de recommandations sur l'organisation des chantiers de démolition navale et les actions préventives dans le domaine de la sécurité.

Les nombreuses incertitudes et les arbitrages qui pèsent sur les activités de démolition navale risquent de pousser les derniers détenteurs des navires en fin de vie, qui sont souvent des courtiers et des sociétés insaisissables, à prolonger l'exploitation de leurs unités et à les abandonner dans des ports non surveillés ou au fond de la mer.

## **L'immersion et ses conséquences.**

La convention Opar portant sur la prévention des pollutions dans l'Atlantique du Nord Est interdit l'immersion des navires ou des avions ou autres véhicules volants depuis décembre 2004. La Convention de Barcelone interdit ce genre de pratiques en Méditerranée. Ailleurs, l'immersion des navires reste autorisée sous le contrôle de la Convention de Londres, à condition qu'il n'y ait pas de solution alternative économiquement acceptable à terre, que l'immersion du navire fasse l'objet d'une demande de permis et d'une extraction des polluants comme les PCB et les hydrocarbures. La tendance au sein de la Convention de Londres est cependant de privilégier le recyclage des navires en tant que participation au développement durable et à l'économie des matières premières non renouvelables. Les navires immergés clandestinement ou officiellement ne sont pas désamiantés au motif que l'amiante serait inerte, naturel et exempt de tout danger pour la flore et la faune marine. Or, une bibliographie substantielle montre qu'à partir de 104 fibres d'amiante par litre d'eau de mer la croissance des coquillages est réduite, qu'à partir du même seuil les branchies des poissons sont colmatées ou déformées et qu'une mortalité anormale des larves est constatée. Les effets sur les oeufs, larves et juvéniles de poissons sont observés par des scientifiques japonais et américains sur les saumons qui à partir de 106 fibres par litres -concentration observée dans certains endroits des grands lacs canadiens et américains- subissent des pathologies diverses liées à la croissance, à la dégradation des tissus et des comportements aberrants notamment dans le domaine de l'orientation.



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Les citernes des chimiquiers contiennent des résidus toxiques et des tartres qui peuvent éventuellement être radioactifs. L'exposition des démolisseurs est plus importante que celle des équipages. Sur la photo, information à l'attention des marins sur un chimiquier spécialisé dans le transport d'acide phosphorique.

L'impact négatif des fibres d'amiante sur le développement du plancton est lui aussi attesté. Donc, l'utilisation des navires en tant que récifs artificiels expose les organismes marins colonisateurs aux risques pathologiques de l'amiante libéré par la corrosion et la dislocation de l'épave.

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## **Getting Sensitive Cargo from Point A to Point B**

When people stand dockside and see a huge ship stacked high with steel containers, it is hard to imagine that the massive bulk in front of them is not always enough to protect the cargo inside. But as any ship owner knows, the sea has ideas of its own and can turn into a powerfully destructive force, capable of tossing containers free from their straps, sweeping them overboard or smashing them together like crumpled accordions.

Sometimes it doesn't even take a stormy sea to ruin cargo. Shipments of pharmaceuticals, sensitive equipment, frozen foods and other delicate items may look from the outside just like every other steel container loaded on a ship. But those who are transporting cargo with specialized handling requirements know there are plenty of ways for things to go wrong. From the shipper to the packer, logistics provider, transport vehicle and finally, the receiver — at each point the cargo changes hands, new opportunities for mishaps and misunderstandings occur. With all cargo, the goal is to move goods safely from Point A to Point B.

The complexity added when there are concerns about temperature requirements, timing and other stress on the cargo makes it critical to have a collaborative partnership and clear communication between each of the players involved in the transportation chain.

When that partnership includes the insurer and their risk control expert, the complexity of shipping this type of cargo can be appropriately addressed and insured on the front end before any mishaps might occur.

### **That Sinking Feeling**

How can things go wrong? With apologies to Elizabeth Barrett Browning, let us count the ways:

- Temperature-sensitive cargo in an environmental container was shipped out on Friday and needed to reach its destination in 48 hours. The only problem was that, unbeknownst to the shipper, the cargo didn't make it on to the sole Friday international flight. It sat in the freight section of the airport throughout the weekend, waiting for the next flight on Monday. Loss: a half million dollars. If only someone had known ....

- A shipment was carefully packed into an environmental container and detailed arrangements were made to get it to its destination. But the transportation chain began with a short trip to the airport. The local courier who was hired tossed the load into the back of his open pickup truck and didn't notice when it bounced out en route. Loss: a quarter million dollars.
- While the average value of a container arriving on a fully loaded ship is about \$100,000, containers filled with expensive pharmaceuticals or sensitive equipment can be worth millions of dollars. One such container, despite being well anchored and safely stowed, was swept overboard by 30-foot waves. Loss: \$6 million.

These are just three examples that begin to illustrate some of the complexity around shipping cargo that requires special handling.

If containers are loaded with cotton shirts, automobile tires or children's toys, it is easy to think of them as interchangeable commodities. But sensitive goods often have unique requirements that give a container distinctive characteristics — almost a personality — that must be taken into account.

### **Cargo with Personality**

Cargo may have a variety of conditions that must be met or maintained. For example, frozen chicken has to be kept at sub-freezing temperatures in a refrigerated container. This may simply require making sure the refrigeration unit attached to a container is running properly throughout a voyage.

Pharmaceuticals, on the other hand, may need to be kept within a small range of temperatures — not too hot and not too cold — to be sure the ingredients do not begin to degrade. Packaging and safety seals may need to be protected to make sure there are no surface breaks or scratches that would cause the entire shipment to be thrown out as damaged goods. Raw materials for pharmaceuticals may need to be delivered within a certain amount of time to retain their freshness or usability.

If goods are packed in an environmental container that is rated for a certain number of hours, and the time limit is exceeded, shippers may need to have the contents opened up, repackaged and placed in a new environmental container — adding further time and cost to the shipping process.

Time and temperature are not the only issues. One shipment with an unusually large value — \$36 million for a single container — involved a laser that was being exported to Japan.

The laser included a \$1.2 million manmade crystal that had taken eight-and-a-half months to manufacture. If the laser was subjected to more than two Gs of force, the crystal was in danger of cracking, which would make the whole machine useless.

### **Taking the Right Steps**

The starting point of any shipment that involves special handling should be an interactive process between a risk control expert and the original manufacturer to determine the specific potential for things to go wrong. By understanding the possible "weak" links in the transit chain, the risk control expert is in a good position to provide advice on protective measures.

However, the real key to success is establishing strong lines of communication between all of the parties that will handle the cargo.

Having a single person acting as a quarterback, overseeing all of the transfer points, is also critical. This person can monitor the progress of the shipment, intervene if delays occur, and make sure that any appropriate actions are taken if packaging needs to be recharged or adjusted.

Sometimes, despite all the best efforts, problems will occur. If those involved in the chain of transit have worked closely with an experienced insurance underwriter ahead of time to take into account the risks involved, they should be able to rely on insurance coverage that will meet their needs.

At that point, a knowledgeable claims handler becomes a valued asset in recouping losses.

There is always risk in moving any type of cargo. But with proper precautions, moving even the most sensitive cargo can be a success story for all involved.

One final example is a good reminder of how important each link is as the cargo is passed along the transit chain.

An environmental container full of temperature-sensitive medicine was being shipped to a hospital. It arrived at

the hospital within the required time frame. Unfortunately, no one told the guy in the mailroom in the basement — where the shipment sat for 36 hours before being taken to the eighth-floor doctors who needed it. The medicine was unusable

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## **Not Paying Ransoms Would Be Massively Detrimental To The Industry**

**Says InterManager President at CMA**

Any move at government level to ban the payment of ransoms to pirates would have a massively detrimental effect on the risk to the world's seafarers and the global economy, according to Alastair Evitt, Managing Director of Meridian Marine Management, President of InterManager and the newly appointed Chairman of the Save Our Seafarers Campaign.



Addressing the opening session of this year's Connecticut Maritime Association (CMA) conference in Stamford, USA, Mr Evitt said not only would such a ban have an impact on the willingness of any crew to transit high risk areas, but any owner who then did not pay a ransom for his crew and vessel would be unlikely to ever attract a crew again.

Responding to comments that came out of the recent London conference on Somalia where

governments called for a move to not pay ransoms to pirates, he said many vessels would be forced to reroute with the subsequent effect on costs. "And for those forced to transit pirate areas, insurance premiums would become prohibitive - to say nothing of the fact that in many cases vessels would become a total loss after six months," he said.

"I for one would not sanction one of Meridian's vessels transiting the high risk area - if there was no ultimate solution in the event of a vessel and her crew being held captive."

Addressing conference delegates, he said: "I speak as Chairman of the Save Our Seafarers campaign when I say that we are opposing this apparent change of political will and hope we can rely on your support."

Referring to the future for the seafarer, Mr Evitt said crew recruitment, retention and development would resurface as a major challenge as the shipping industry recovers from this recession: "What will tomorrow's crews expect by way of remuneration (to make up for stagnant salaries): social media onboard and security to name but a few. As an industry I believe we will also have to pay more attention to cultural issues and onboard integration."

Working as part of a team is essential in difficult economic times, and none more so than when it comes to the interaction between ship operators and suppliers. "Shipoperating requires joined-up thinking between everyone

involved and your ship supplier should be seen as a key team player who can make a significant contribution if they are allowed to," he said.

So how can ship managers provide better services to their clients? Alastair Evitt said: "InterManager is, investing both time and money in the development of operational and safety key performance indicators and is convinced that with the right measurement tools, facilitating improved management services to our principles will be the next game changer in our sector."

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**Inséré le 06/08/12 OPEN FORUM Enlevé le 06/09/12**



Liquefied natural gas (LNG) is natural gas that has been temporarily converted to liquid form for efficient storage and transport. This rich source of energy, consisting mainly of methane, originates from multiple gas fields worldwide, and global reserves are still rich. Natural gas is mostly used on land sites, but, in the form of LNG, it has been used as fuel for large gas carriers for years. Recently, LNG has been successfully introduced as fuel for coastal ships in Northern Europe, particularly in the short sea shipping market.

Selecting LNG as the fuel choice for new vessels is predicted to be advantageous to ship owners involved in short sea shipping. The network of coastal LNG bunkering stations is under development and an LNG spot market will probably soon emerge. Increasingly stringent air emission standards are driving this progress, resulting in increased LNG availability and reduced overall costs. Safe and efficient maritime engines and supply systems for LNG fuel are already approved and available, and cost-efficiency is increasing.

### **Benefits beyond those expected**

Stakeholders in the maritime industry commonly believe that today's LNG propulsion is not economically feasible and therefore only a few such investments have been completed. However, recent studies have proven that, with emission taxes in place along with increasing oil prices, LNG-fuelled vessels may be the preferred financial solution for future short sea shipping.



LNG-fuelled ships provides clear environmental benefits regarding local emissions and therefore DNV intends to promote LNG further as a suitable fuel for short sea shipping. With its close involvement in the development of technological solutions, unit approvals, risk- and cost assessments, and environmental evaluations, DNV considers LNG as a supreme, future-oriented fuel for ships in coastal traffic.

In Norway, LNG-fuelled short sea shipping seems to be financially viable under most

operational conditions for ship owners operating on fixed routes, such as ferries and liner trade. This is probably the same beyond Norway also, and in other ship segments, along with a developing LNG bunkering market.

With stricter international legislation on ship emissions, for example with new Emission Control Areas (ECA), and new standards for engines and fuels soon to be enforced, LNG offers a long-term solution for short sea shipping that brings multiple environmental benefits and does not require an exhaust gas purification process.

Although switching to LNG fuel provides environmental benefits in itself, additional gains can be obtained if short sea shipping manages to attract freight volumes from heavy goods vehicles. Such a shift in transport mode will increase the profitability of the shipping sector and benefit the general public by decreasing road traffic and strain on the highway network, as well as reducing pollution in densely populated areas.

There are some obstacles to overcome before LNG becomes established as a widely used fuel within short sea shipping. However, developments within LNG technology are typically reflected in lower installation- and operational costs, reduced emissions, and decreased loss of cargo space due to LNG tanks.

There is a strong worldwide drive among stakeholders in the maritime industry to develop cost-efficient propulsion solutions to serve a market that is facing a new environmental regime. LNG is a sustainable short sea shipping solution.

Through DNV's insights into technology, safety, regulatory affairs and market dynamics, we aim to be your preferred discussion partner when it comes to LNG-fuelled short sea shipping.

## **Soft issues in a tough legal reality**

Stringent upcoming environmental legislation is the main driver for fuelling ships with LNG. An increasing drive for emission taxes, new EU directives and ECAs, followed by Tier III emission standards have already encouraged many ship owners to take action. Under most circumstances LNG fuel is an equal or better solution than the various available means of exhaust gas purification.

EU directive 2005/33/EC, valid from 01.01.2010, limits the sulphur content of fuel to 0.1 % while at berth in EU harbours and canals. LNG is an excellent alternative to low-sulphur fuel also under such situations.

The focus on maritime abatement measures is also increasing in response to the growing number of Sulphur Emission Control Areas (SECAs) and the coming ECAs around the world. IMO regulations allow ECAs to be designated for SO<sub>x</sub> and particulate matter, or NO<sub>x</sub>, or all three types of emissions from ships.

Examples of such areas include the Baltic Sea and the North Sea as SECAs. In such control areas, the sulphur level of the fuel must be below 1 % from 01.07.2010, and below 0.1 % from 01.01.2015. An alternative to low sulphur fuels is installation of exhaust scrubbers, or a switch to LNG fuel.

The global Tier II standard for NOx emissions will be valid from 2011 for new ships, requiring approximately 20% reduction in NOx emissions from the current Tier I standard. When Tier III is enforced, another 75% NOx reduction in ECAs will be required for ships built after 01.01.2016. Exhaust gas purification by Selective Catalytic Reduction (SCR) or using LNG as fuel without exhaust cleaning are the two dominant abatement measures to meet Tier III.

There are huge environmental gains to be achieved by switching to LNG fuel; such a conversion eliminates nearly all SOx and particulate emissions, and NOx is reduced by nearly 90%. The net greenhouse gas reduction effect is about 15%.

For ship owners operating in SECAs with existing ships, the sulphur limitations should cause the most immediate concerns. Moreover, new tax levies on emissions may be imposed in the near future, forcing ship owners to develop a strategy for remaining within compliance of increasingly stringent emission standards.

## **Market dynamics**

When is LNG propulsion a viable investment? How to influence emission levies? Will constraints in technology or in LNG supply affect the financial risk? DNV can provide the answers.

Today's newbuildings that include LNG propulsion typically have an added investment cost of 10-20 %. The additional cost is mainly due to the requirement for advanced LNG storage tanks and the fuel-piping system. Currently, there are few system manufacturers offering adequate solutions, and installation experience at the yards is limited. However, as the number of LNG-fuelled vessels increases, this situation will improve.

Currently there are only a few frontrunners using LNG as fuel. However, as it becomes more widespread, installation costs will decrease, perhaps followed by a relative decline in the price of LNG fuel compared to conventional fuel. The technology is proven and a market surge is expected to generate a more dynamic LNG fuel market; consequently there is an increasing momentum to target LNG as a maritime fuel. This development is also applauded by national authorities and international maritime organisations.

DNV has conducted net present value analyses for different investment scenarios considering different developments of voyage costs, operational costs, and NOx tax (where applicable) for both conventional and LNG-fuelled ships.

Saving potential for LNG compared with conventional fuel:

For a typical ship owner in the short sea shipping trad with NOx tax obligation, the additional investment of 2 M Euros for an LNG-fuelled newbuild, compared with a conventionally fuelled ship, may be calculated to give the following benefits over the ship's lifespan \*:

- Bunker costs reduced by 13 %
- NOx-tax reduced by 83 %
- Maintenance reduced by 33 %
- Net present value (NPV) of this investment is above 3 M Euros.

In our scenarios, we expect a steeper increase in oil prices than in LNG prices in the years ahead. From the example above, LNG propulsion seems a viable investment that should be considered seriously by many typical ship owners within short sea shipping. In general, LNG fuel is more profitable for a ship owner who considers switching to ultra-low sulphur marine diesel oil than for an owner who continues using heavy fuel oil combined with a new scrubber installation.

*\* DNV has examined different investment scenarios for ship owners in the short sea shipping segment who are considering investing in LNG-fuelled ships in order to meet the new ECA regulations.*

## **Choice of transportation mode**

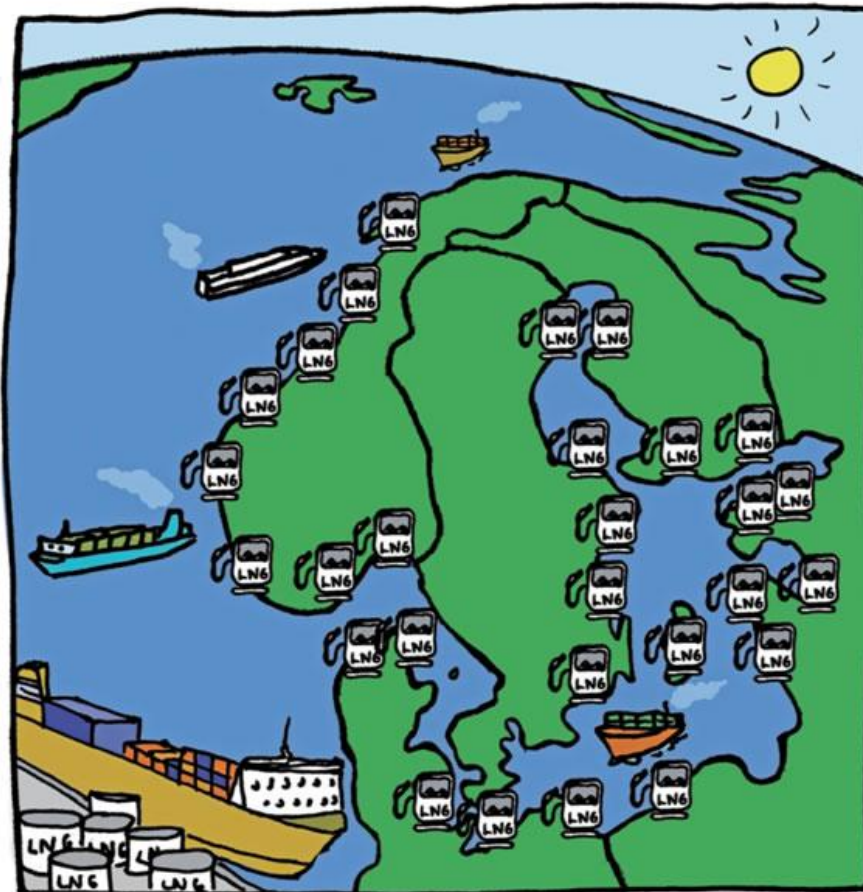
How to gain market shares in the short sea shipping market?

"Ship operators lack information and knowledge about the decision process in choosing mode of transportation and the relevant qualities to focus on in order to attract cargo, and this is one of the main reasons why cargo is so widely transported on roads"



This is one of the statements tested in the market by DNV regarding short sea shipping. Cargo owners, ship operators, third party logistics providers and organisational bodies have contributed in mapping the decision process and the selection criteria for transportation mode. This survey confirmed that there is real potential for more sea transportation to be obtained through better communication between players in the industry. However, an increased governmental focus on the frame conditions for short sea shipping would also help in the development of this mode of transport.

A cargo owner's supply chain strategy may not be fully correlated with the fleet strategy of the ship operator, and cooperation in fleet and cargo consolidation can be enhanced. Transportation at sea requires larger volumes, and, in most cases, takes longer time than road transport. Whilst sea transportation may face challenges with customised door-to-door solutions and short transportation time when competing with road transportation, it can successfully compete on price and environmental impact.



Since sea transportation generates less CO<sub>2</sub> per tonne-km than road haulage, the most efficient way to reduce CO<sub>2</sub> emissions from transport is to shift from road to sea-based transportation. In order to initiate such a shift, national and regional governments must be involved and must provide attractive frame conditions.

Nevertheless, the ship operator will benefit from increasing their attractiveness as transporter of goods by improving their products and increasing their cooperation with cargo owners.

In our survey we saw indications of an unrealised potential for ship operators if they

take a more proactive role in visualising the cost-benefits of their services towards cargo owners. Open dialogue both with customers and competitors and involvement in a larger part of the transportation chain (warehousing, post-haulage, etc) can enhance the service delivery and encourage the perception of short sea shipping being an attractive alternative to road transportation.

## Expanding LNG fuel supply to the Baltic Sea

Maritime transport is an important backbone for trade in the Baltic Sea, with 2000 ships operating daily in the region. Both the number and the size of ships have increased in recent years, and the ship traffic is currently representing up to 15% of the world's cargo traffic. The transport volume in the Baltic Sea is predicted to increase significantly in the coming years. Typical ship types in the region include Ro-Ro ships, container feeder ships and Ro-Pax vessels trading on regular routes.

The Baltic Sea is currently a SECA with strict SO<sub>x</sub> regulations, and thus abatement measures must be taken. Several of these environmental measures are based on new technology, while LNG propulsion represents a proven and permanent solution for reducing SO<sub>x</sub> and other emissions.

A key to implement LNG propulsion in the Baltic area is adequate access to LNG. A large LNG import terminal in Swinoujscie, on the west coast of Poland, is scheduled to open in 2014. This will be in operation when the new SOx and NOx regulations are enforced in 2015 and 2016, respectively.

Efficient distribution of LNG to the main ports in the Baltic Sea is a prerequisite for increasing the number of LNG fuelled vessels in the region. One possible solution for efficient LNG distribution within the region may be a modular transportation system with linked LNG barges or vessels. This could distribute LNG units in various ports along its way in accordance with local needs.

A shift to LNG as maritime fuel is within EU's policy for promotion of environmentally friendly transportation. This policy also emphasises a change in cargo transportation from roads to other modes.

## DNV as your preferred partner

DNV has taken the leading role in making LNG propulsion safe and viable for vessels operating on LNG fuel. The first rules were developed by DNV and are likely to be implemented into IMO's new rules for LNG propulsion, the IGF Code, by 2012. It is DNV's intention to continue to be the primary mover concerning the technical safety of vessels operating with LNG propulsion; moreover DNV also intends to remain a preferred partner for

Answers to some common questions on uncertainties and worries regarding LNG:	
Statement	DNV's comment
"LNG technology reduces the cargo space of the vessel and is only suitable for larger vessels."	Typical LNG tanks are currently spherical and indeed require considerable space. However, as the technology develops, hull-shaped tanks will become available. Such tanks can be fitted in void spaces and integrated in the hull structure, making LNG suitable also for smaller short sea vessels. Moreover, cylindrical LNG tanks can be placed on deck.
"I have heard that the LNG supply market is dominated by a very few suppliers."	Although the LNG-supply to ships in Northern Europe is currently dominated by few suppliers, there are other serious suppliers emerging. A new LNG terminal in the Stavanger area opens in 2010, with significant capacity. Enforcement of supply in other Northern European countries can also be anticipated soon. The LNG price to end-user is currently linked to the oil price and is often fixed in long-term contracts offered by few suppliers. However, the price to end-users can be expected to drop as the competition increases.
"The vessel is forced to bunker at dedicated terminals."	DNV's calculations show that it may be economically advantageous to offer LNG fuel at existing bunkering terminals. Therefore, we expect that LNG will be available at the majority of the locations where bunkering occurs today.
"I'd rather run my vessel on low sulphur fuel or install scrubbers. Then I manage to comply with ECA regulations without needing to invest in LNG propulsion."	Installation of scrubbers is an alternative approach, and, when used with engines on heavy fuel oil, is a more cost-efficient solution than LNG propulsion. However, the long-term operational experience with scrubbers is limited, and they generate an acidic liquid waste which must be dealt with. Additionally, scrubbers do not address the NOx problem. In contrast, using LNG as fuel provides a permanent solution which always results in SOx and NOx gains when the engine is running.
"I am concerned about the vessel's operational flexibility when using LNG as fuel."	There are currently two equally recognised options for LNG engines. You can either choose a lean-burn engine that only uses LNG, or, alternatively, a dual-fuel engine that runs on both diesel and LNG. The type of ship, trade and overall costs are factors to consider when choosing engine type. However, it should be noted that the operational flexibility of using LNG fuel will increase as the LNG supply grid is expanded and reinforced.
"LNG propulsion is not a financial sound investment."	As long as there are certain emission levies and the price of oil increases relatively to the price of LNG, DNV has found that investment in LNG propulsion is financially viable for several groups of ship owners within short sea shipping.

advisory and operational matters.

DNV's involvement in research and development in LNG supply, storage, engines and emission issues has demonstrated that ship safety, market mechanisms, and operational regularity can be maintained when operating ships on LNG. In developing LNG as an alternative fuel for short sea shipping, we foresee significant market opportunities for manufacturers, ship designers, and yards with focus on LNG technology.

Competitive advantages in the freight market may also be credited to innovative ship owners who are willing to be forerunners with LNG-fuelled ships, along with the increased operational flexibility of being able to enter Environmental Control Areas etc. freely.

However, when considering fuelling with LNG there are still technological challenges to be overcome, environmental rules to be assessed, and a need to identify and manage the financial risks. DNV has unique experience within all these subjects and we are always eager to discuss business opportunities with serious parties considering LNG as fuel.

As many regions approach implementation of new ECAs focusing on all common types of ship emissions (SOx, NOx, particulate matters and possibly also CO2), ship owners should be able to emphasise long-term measures that are possible for officials and third parties to verify. DNV can assist with the interpretation of new rules and provide a useful comparison of LNG with alternative emission abatement initiatives.

Close cooperation among the players in the maritime industry and a defined risk picture for investors are two crucial factors for developing a significant fleet of LNG-fuelled ships. The number of LNG-fuelled ships in the Norwegian short sea market is growing; there are currently fourteen such vessels that are not LNG carriers. All these were built to DNV class, and we will continue to work hard to remain a leading class society within LNG-fuelled short sea shipping.

As with assessing any other new technology, information about the installation itself, costs, operation, durability, and long-term performance must all be taken into account when considering LNG as ship fuel. Some ship types may be especially suitable for this solution. Contact DNV's business analysts and technical teams to learn more about our investment decision tool, capabilities, and the most recently approved technical solutions on the market.

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**Inséré le 08/08/12 Logboek NEWS Enlevé le 08/09/12**

## **ICS Reminds Shipowners To Comply With STCW In 2012**

ICS is advising shipping companies to ensure they comply with the Manila amendments to STCW, particularly in relation to seafarers' rest hours and the more stringent requirements for preventing drug and alcohol abuse that will apply worldwide from January 1st 2012. The International Chamber of Shipping (ICS) and the International Shipping Federation (ISF) led employer representation at the IMO Diplomatic Conference which adopted the Manila amendments to the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers (STCW 2010). The Manila amendments begin a phased entry into force from January 1st, 2012. ICS is reminding shipowners that the new STCW minimum rest hour requirements are likely to be vigorously enforced by Port State Control Officers who will have the authority to check that ships maintain accurate records for individual seafarers which demonstrate they have been provided with the required minimum rest. For example, seafarers must now always have at least 10 hours rest in any 24 hour period.

To help further reduce the possibility of fatigue, much of the flexibility that previously applied under STCW has now been removed. The new STCW rest hour requirements were developed to ensure that they were compatible with those stipulated in the ILO Maritime Labour Convention (MLC) which is expected to enter into force in 2013. Peter Hinchliffe, ICS Secretary General, explained: "It is particularly important that companies comply with the new IMO rest hour requirements and record and monitor seafarers' rest periods.

Apart from the importance of preventing fatigue, Port State Control can be expected to begin checking the authenticity and accuracy of any records by comparing them with other vessel documentation. Seafarers must also confirm that their hours are accurately recorded." ICS advises that, because the STCW Convention already has widespread ratification, the 2010 amendments will be enforced on a global basis earlier than the ILO MLC standards. In practice, from January 2012 it is therefore expected that STCW 2010 will become the principal regime for rest hours that will be checked by Port State Control. For the first time under STCW, mandatory limits for alcohol consumption are also being introduced (a limit of not greater than 0.05% blood alcohol level (BAC) or 0.25 mg/l alcohol in the breath), although individual flag states may choose to apply stricter limits.

Other new STCW requirements governing competence standards and certification will be phased in from January 2012. To avoid misunderstandings, ICS recommends that vessels keep on board copies of two circulars developed by the IMO Maritime Safety Committee in May 2011 which clarify the implementation dates of the STCW 2010 amendments for Flag States and Port States. Useful advice and reference information is available in the updated ISF Guidelines to the IMO STCW Convention. In addition, the ISF Watchkeeper 3 software will assist compliance with the new STCW seafarers' rest hour requirements, particularly with recording, monitoring, checking and planning. **Source: ICS**

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**Inséré le 10/08/12 Historique Enlevé le 10/09/12**

## **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 RABAU 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.

Naigu, officer in charge of the NMSA, raised concerns about the man at the helm of the **Rabaul Queen** when she foundered, Captain Anthony Tsiu. Naigu said he believed Tsiu 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 Tsiu 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 12/08/12 Logboek NEWS Enlevé le 12/09/12**

## **Piracy a serious threat to Canada, lawyers told**

The first pirates Capt. Steve Waddell encountered weren't wearing puffy shirts, tri-cornered hats or as much dark eyeliner as Disney's Jack Sparrow. Instead they were decked out in Gucci watches and ill-fitting Armani suits, claiming to be Somali fishermen aboard a small, open-decked skiff Waddell and his crew confronted in the treacherous seas off the Horn of Africa. "I'm not sure why they considered that pirate attire," said Waddell, who in 2009 commanded the frigate **HMCS Fredericton** on one of Canada's first anti-piracy naval missions to the region.

A Canadian boarding party confronted the skiff, confiscated guns and gasoline from the group, and sent them back to the Somali coast. Waddell watched as the Somalis high-fived each other, happy to be released, as they motored away from the warship. "That's the reality of anti-piracy operations off Somalia," Waddell told an audience of lawyers with the Canadian Bar Association on Tuesday.

He and other experts, who spoke at the bar's annual meeting in Halifax, say piracy is a serious, resurgent security issue that threatens the economies of all trading nations, including Canada. Worse, solutions to the problem remain far from clear. Among the thorny questions facing maritime and military lawyers is how modern-day pirates should be treated by Canadian forces and other state authorities: Are they criminals or foreign combatants? Can naval crews legally detain them, and if so, should they be accorded prisoner-of-war rights under the Geneva Convention? What about child pirates in the service of a pirate warlord?

Once pirates are arrested, should they be brought for prosecution back to Canada, where a pirate might make a refugee claim? "Off the Horn of Africa, nine out of 10 pirates captured are released, because no state is willing to prosecute them," says Simon Barker, an Ontario lawyer who specializes in admiralty law.

Barker says when most Canadians consider piracy, they imagine only the Hollywood stereotypes. To prove his point Barker took to the conference stage here wearing, along with his suit and tie, a

skull-and-crossbones bandana on his head. But kidding aside, he and other experts say Canada and other rich countries must get serious about the threats of piracy in the 21st century.

Pirates increasingly threaten commercial shipping in the South China Sea, off the coast of Nigeria, in the Red Sea and in the Indian Ocean off Somalia. The UN's International Maritime Bureau (IMB) says there were 489 pirate attacks around the world in 2010, a 20 per cent increase over 2009. So far this year, there have been 310 attacks, plus 487 crewmen taken hostage and seven crew killed by pirates. The U.S.-based One Earth Future Foundation says the total costs of piracy to the global economy — factoring in lost cargoes, paid ransoms and piracy-insurance fees — are as much as \$12 billion U.S. per year. "In today's world, this is an unacceptable situation," says IMB director Pottengal Mukundan. Mukundan says that while NATO and other naval forces from China, Russia and India are mounting serious efforts to patrol dangerous seas, pirates are simply growing bolder. He says there has been a rapid rise in oil tanker hijackings this year off the coast of Benin, where pirates are siphoning off entire oil cargoes into smaller vessels, and then ransoming off crews for millions of dollars. Somalian pirates are now operating from large "mother ships," far offshore in the Indian Ocean, a vast area that's difficult for foreign navies to patrol and secure. "How do you police a region like that with 24 warships?" Waddell says. "That's like taking 24 police cars and trying to patrol all of Canada. It's impossible." Hugh Williamson, a professor of maritime law at Dalhousie University, says piracy ultimately requires political and economic solutions. "You can't solve piracy at sea," he says. "The solution to Somali piracy will be setting up a stable government ashore where criminal gangs can no longer operate." While the problem may seem distant for Canadians, Waddell calls piracy a "critical issue for Canada. "The products on Canadians' grocery shelves don't just come from within, they come from abroad, and with piracy disrupting trade, pushing up insurance rates, and forcing commercial mariners off the water because they no longer want to risk their lives — these are issues that will ultimately affect what we see on our shelves here, and how much we pay for them. We should get a little bit smarter about it." **Source: Postmedia News**

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**Inséré le 14/08/12 OPEN FORUM Enlevé le 14/09/12**

## **Scheiding grote en kleine vaart**

De Schelde heeft lange trajecten waar zeeschepen, binnenvaartschepen en recreatievaart van dezelfde vaargeul gebruikmaken. Dit kan leiden tot onveilige situaties. Zeeschepen veroorzaken nogal wat waterbeweging waarvan binnenschepen hinder kunnen ondervinden. Daardoor is de vraag ontstaan: is het mogelijk om zeevaart en kleine vaartuigen van elkaar te scheiden, met aanvullende verkeersmaatregelen om de vlotheid en de veiligheid op de Westerschelde te verhogen?

Aan de problematiek van de binnenvaart in het Schelde-gebied is in het recente verleden aandacht besteed. Daarbij is vooral gekeken naar de frequenties van ongevallen met binnenschepen en de oorzaken ervan. In de meeste gevallen gaat het om strandingen, vaak als gevolg van de onbekendheid van de eigen positie in directe relatie tot de lokale hydrografische, hydrologische en meteorologische omstandigheden. Ook hinder als gevolg van passerende zeeschepen en aanvaringen komen regelmatig voor.

### **Studie naar scheiding**

Een Vlaams-Nederlandse werkgroep Veiligheid boog zich over preventieve nautische maatregelen op de Westerschelde. In opdracht van de werkgroep rondde International Marine & Dredging Consultants N.V. (IMDC) uit Antwerpen begin vorig jaar een studie af naar de mogelijkheden om grote en kleine vaart meer van elkaar te scheiden. Het onderzoek bestaat uit drie verschillende inrichtingsniveaus: promotie van het gebruik van alternatieve vaarroutes; markeren van het vaarwater en verstrekken van actuele diepte-informatie en het verdiepen van (de drempels) van de nevengeulen met baggerwerken.



## Promotie alternatieve vaarroutes

Voor het eerste inrichtingsniveau, promotie van het gebruik van alternatieve vaarroutes, stellen de onderzoekers voor een informatiecampagne op te zetten, in samenspraak met de gebruikers(organisaties). De gebruikers worden geïnformeerd over de mogelijkheden van de nevengeulen en routes parallel aan de hoofdvaargeul. In de publicaties worden de routealternatieven duidelijk aangegeven samen met aanbevelingen voor de plaatsen voor kruising van de hoofdvaargeul. Voor golfslaggevoelige schepen kan hierin ook een specifiek advies voor routes met langere reistijd opgenomen worden. Ook stellen de onderzoekers voor een algemeen routeadvies te publiceren voor kleine vaartuigen met een bepaalde diepgang via een bekendmaking van de Gemeenschappelijke Nautische Autoriteit (GNA).

## Actuele diepte-informatie

Voor het tweede inrichtingsniveau, markeren van het vaarwater en verstrekken van actuele diepte-informatie, stellen de onderzoekers voor de peilfrequentie op de drempels van de alternatieve routes te verhogen tot vier peilingen per jaar. De gebruikers van de vaarweg moeten zo snel mogelijk van de meest recente diepte-informatie op de hoogte zijn. Daarom stellen ze voor een geschikt informatietechnologisch instrument te onderzoeken en uit te werken. Hiermee krijgen de schippers vlug en makkelijk informatie. Tenslotte stellen de onderzoekers voor de alternatieve routes te markeren met passende betonning overeenkomstig de diepte van de vaargeul.

## Verdiepen nevengeulen



Voor het derde inrichtingsniveau, het verdiepen van (de drempels) van de nevengeulen met baggerwerken, stellen de onderzoekers voor een modelonderzoek uit te voeren. Daarbij onderzoeken zij het effect van een aanpassing van bepaalde drempels op de morfodynamiek (mechanische krachten die worden uitgeoefend door stroming van water en transport) van de Westerschelde en de stabiliteit van deze drempels (zowel het effect van het baggeren als van het storten). Op basis van de resultaten van dit modelonderzoek kan het vergunningstraject opgestart

worden voor de aanleg en het onderhoud van de diepte van de Schaar van de Noord, de zuidelijke inloop van het Middelgat, de Schaar van Valkenisse en de Geul van Baarland (voor deze laatste alleen het onderhouden van de diepte).

## Promotie nevengeulen

Op basis van het studierapport heeft de werkgroep een aantal voorstellen geformuleerd over het promoten van het gebruik van de nevengeulen. Het betreft de volgende zes routes:

1. het traject Saeftinge met Schaar van de Noord als alternatief;
2. het traject Hansweert-Saeftinge via de Schaar van Waarde en de Schaar van Valkenisse;
3. het traject Terneuzen-Hansweert langs het Middelgat via de zuidelijke inloop;
4. het traject Honte-Hansweert langs Middelgat via Everingen;
5. het traject Sloehaven-Terneuzen via Everingen;

6. het traject Zee / Buitenhaven Vlissingen-Terneuzen via de Schaar van Spijkerplaat.

## Quick wins op korte termijn

De inrichtingsniveaus 1 en 2 uit het onderzoek kunnen gelijktijdig uitgevoerd worden. Daarbij wordt zeker gekeken naar punten waar snel resultaat te behalen valt, oftewel de quick wins. Wat de informatievoorziening aan de scheepvaart betreft, wordt een actieve rol van de beheerder verwacht. Behalve het ontwikkelen van een informatiecampagne over nevenvaargeulen en parallelle routes, moet ook de huidige informatievoorziening naar de gebruikers worden geoptimaliseerd. Een proactieve verkeers- en scheepvaartbegeleiding, vooral bij kruisingen en (voor)havens van sluizen en jachthavens, vraagt om nadere afstemming op verkeersmanagement-niveau. Hierin moet ook de wenselijkheid van vaarplannen voor de binnenvaart en het zelfregulerend vermogen van de scheepvaart worden meegenomen. De alternatieve vaarroutes moeten minstens vier keer per jaar gepeild worden. Van de hydrografische dienst wordt recente diepte-informatie verwacht voor tijdige opname in de hydrografische kaarten. Verder moet actief worden ingezet om de RIS-richtlijnen voor de binnenvaart in te voeren. Als voldoende zekerheid verkregen is over de diepte en stabiele ligging van de nevengeulen, kunnen gedeelten van deze geulen betond gaan worden. Het markeren van de alternatieve routes wordt uitgevoerd door het onderdeel Hydrografie en Vaarwegmarkering van Rijkswaterstaat Zeeland

## Verdieping nevengeulen



In de lange(re) termijn visie wordt voorgesteld die drempels aan te passen die toegang verlenen tot de nevengeulen in de trajecten waar efficiënte maatregelen het meest nodig zijn. Binnen de genoemde trajecten van nevengeulen verdienen de volgende gebieden nadere aandacht: de Schaar van de Noord; de zuidelijke inloop van het Middelgat en de drempel van de Schaar van Valkenisse. Hier moeten mogelijk meer structurele en ingrijpende maatregelen worden uitgevoerd die extra inspanning en studie zullen vragen. Uit de ervaringen van de gebruikers

en het Gemeenschappelijk Nautisch Beheer (GNB) blijkt dat de ontlasting van de hoofdvaargeulen op de trajecten Saeftinge, Hansweert-Saeftinge en Terneuzen-Hansweert als het meest cruciaal worden gezien. Deze hoofdvaargeulen zijn smal en kennen een grote interactie tussen zee- en binnenvaart. Bovendien toont een analyse van de incidentendatabank (IVS-SRK) aan dat hier de meeste incidenten met binnenschepen plaatsvinden. De drempels van de drie nevengeulen komen vanuit veiligheidsoogpunt dan ook het meest in aanmerking voor een eventuele verdieping. Eenbelangrijke randvoorwaarde daarbij is dat een verdieping niet leidt tot negatieve effecten op het morfodynamisch systeem. Morfologisch onderzoek moet dit uitwijzen.

## Diepte op peil

Ook voor de Geul van Baarland is morfologisch onderzoek nodig. Gezien het huidige belang van de route Everingen-Middelgat via de Geul van Baarland en de scheiding die hierdoor momenteel al succesvol tot stand wordt gebracht, kan het nodig zijn om de diepte van de geul op peil te houden. De geul kent een cyclische verplaatsing met mogelijke verondieping. Modelonderzoek zal uitwijzen

of aanpassing van de drempels in de Geul van Baarland effect heeft op de stabiliteit van de drempels zelf en de morfodynamiek van de Westerschelde.

## Verdieping van drempels

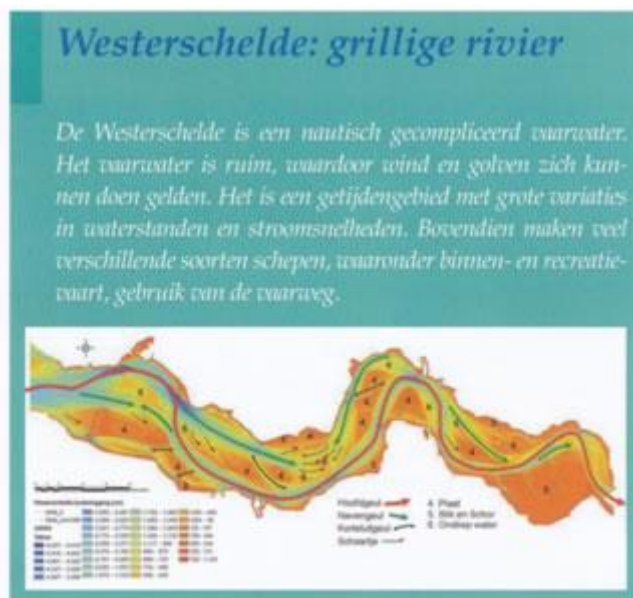
Na het invoeren van de maatregelen wordt bekeken of het nodig is één of meer van de drempels in de nevengeulen te verdiepen. De nieuwe verkeerssituatie wordt vanuit veiligheidsen vlotheidsoogpunt goed in de gaten gehouden. Eventuele voorstellen tot verdieping zullen gebaseerd zijn op morfologische en nautische overwegingen. De besluitvorming voor deze maatregelen gebeurt in gezamenlijk overleg van de Permanente Commissie (PC) met de Vlaams-Nederlandse Scheldecommissie (VNSC) als verantwoordelijke voor het technisch vaarwegbeheer.

## Aan de slag

De PC gaf op 9 juni 2010 opdracht om de aanbevelingen uit de studie uit te werken in een implementatieplan. Het eventueel verdiepen van nevengeulen komt pas later aan de orde. Voorstellen hieromtrent moeten niet alleen rekening moeten houden met morfologische en nautische overwegingen, maar moeten ook getoetst worden op ecologische aspecten. Ook de communicatie naar de bestuurlijke omgeving over eventuele maatregelen is van belang. Het morfologisch onderzoek moet zoveel mogelijk worden ondergebracht in het project Onderzoek en Monitoring, dat wordt uitgevoerd onder verantwoordelijkheid van de VNSC.

## Implementatie

Op 23 maart 2011 heeft de PC ingestemd met het implementatieplan. Veel van de aanbevelingen hebben hierin een plek gekregen. Zo komt er een informatiecampagne over het gebruik van nevengeulen en routes parallel aan de hoofdvaargeul. Ook komt er een proactief verkeer- en scheepvaartmanagement. Daarnaast worden kritische locaties in de alternatieve routes viermaal per jaar gepeild. De diepte-informatie wordt bovendien direct verwerkt in hydrografische kaarten en zo snel mogelijk beschikbaar gesteld aan de vaarweggebruikers. Tot slot wordt de betonning in de alternatieve vaarroutes aangepast op basis van de peilgegevens. Betonning De voorgestelde betonning ziet er als volgt uit:



### Traject Saeftinghe/Schaar van de Noord

Voor een proefperiode van een jaar uitbreiding van gele betonning in de Schaar van de Noord. Daarbij vindt actieve verkeersbegeleiding plaats. Op basis van de bevindingen worden de alternatieven voor zowel op- en afvaart of alleen opvaart door de Schaar bezien.

### Traject Hansweert-Saeftinghe

In de Overloop van Valkenisse is aan de rode zijde ruimte voor een parallelroute gemarkeerd door gele betonning.

### Traject Terneuzen-Hansweert

In het Gat van Ossenisse is aan zowel de groene als rode kant ruimte voor parallelroutes. Ook hier wordt gele betonning aangebracht en gemonitord.

### Traject Vlissingen-Terneuzen

Het ankergebied wachtplaats wordt verlegd en vergroot ten behoeve van het verleggen van de vaargeul aan de westzijde van de ankerplaats, direct langs de Middelpaats.

*Traject Zee/Buitenhaven-Terneuzen*

De parallelroute Borssele wordt uitgebreid vanaf Vlissingen-Sloehaven naar de drempel van twee extra tonnen.

De PC heeft uitdrukkelijk gevraagd aan de verkeerscentrales om voldoende aandacht te besteden aan het vermijden van gevaarlijke situaties bij het kruisen van de hoofdvaargeul door de binnenvaart.

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**Inséré le 16/08/12 Logboek - News Enlevé le 16/09/12**

## **More power to the LNG fuel revolution**

**It looks like the perfect solution, so why the resistance in some quarters?**

Richard Meade -



THE shipping industry is, broadly speaking, a deeply conservative one when it comes to embracing new ideas. While the basic design has been tweaked around the edges a little over the centuries, shipping pretty much got it right some time ago and the 'if it ain't broke don't fix it' mentality has been an understandable brake on innovation ever since.

The problem is that while the shipping model may not be broken, the environment in which it operates is, and no amount of collective head-burying in the sand or climate-change

denial is going to alter the fact that energy efficiency in shipping is a commercial problem for us all.

While some companies have clearly embraced this shift in new thinking, it is probably fair to say that once you have cut through the hot air, genuine good intentions and lack of action, those who could objectively be said to have made significant investment to back up this enlightened thinking are in a minority. Even those well aware of looming regulatory changes have been slow to buy into new technology.

Whether this hesitation stems from a lack of international direction on climate change or a more general reluctance to invest until more dominant technology breaks through remains unclear, so it has been interesting to watch the reaction to Det Norske Veritas' gung-ho push of liquefied natural gas as the fuel of the future.

The benefits of LNG-powered vessels are well documented and largely undisputed by a superficially enthusiastic industry. When Lloyd's List ran a poll earlier this year asking what the most important new technology in shipping would be over the next decade, LNG propulsion came out ahead by a country mile.

According to DNV's calculations, LNG-fuelled ships promise a 25% reduction in CO<sub>2</sub>, a staggering 90% off NO<sub>x</sub> emissions and completely eliminate SO<sub>x</sub>. Given the proliferation of emission control areas and the associated financial burden of complying with a regulatory trend that is only going in one direction, it is hard to see how these benefits could not be attractive to the industry.

Add to that the fact that LNG propulsion is proven technology, commercially available today and most conservative energy forecasts suggest that it will continue to be a competitively-priced fuel compared to existing alternatives, and you have the near perfect package.

## So why the resistance?

Well, nominally you have a chicken and egg situation with the supply of LNG fuel and associated infrastructure. While DNV boasts that “more than 20” LNG-fuelled ships are now operating (and all but one of them are DNV classed, giving you some idea of their interest in this topic), these are predominantly small coastal ferries. Their limited success relies heavily on the available infrastructure and government support from Norway — a costly model that has so far not been successfully copied elsewhere.

Until the infrastructure is available, owners remain unwilling to convert to LNG and thanks to the lack of demand from owners the LNG suppliers remain unwilling to provide it in any meaningful volume.

DNV’s consideration of the subject led it to think much bigger. Its fascinating Triality project, which is a testament to what can be achieved when you hand a serious problem to a team of talented young engineers unencumbered by entrenched thinking, produced a design for an LNG-powered very large crude carrier.

While the ballast-free design was intriguing on a technical level, by giving the vessel a range that could take it from the Middle East to the US and back without the need to refuel, DNV effectively reduced the infrastructure issue to a more manageable question of convincing one forward-thinking energy company to invest in one key hub project in the Middle East. Tricky, but not impossible given the existing infrastructure in that region; and by all accounts the energy companies are at least interested in the project.

One serious investment in the Middle East could potentially have a far bigger impact on the future of LNG as a fuel than even 100 coastal ferries in Norway. Indeed, a successful LNG-powered VLCC in the water some time in the next five years could see DNV’s optimistic forecast that by 2020 half of all ships ordered will be fuelled by LNG and the entire fleet powered by gas by 2050 become a reality.

But the problem with concept ships is one of distance. Ironically for an industry that regularly makes investment decisions based on a 30-year life cycle of a vessel, 2020 tends to look like science fiction territory once they enter the more immediate environment of newbuilding decisions at the yard, or more likely in the company of their banking partners.

With little in the way of political clarity on environmental regulation, the depressing reality is that most shipowners are prepared to sail with a non-optimal vessel if it offers a higher degree of flexibility in the long term.

The logic behind this bias is understandable and based on what owners have learned in the past. Their business experience tells them that flexibility has paid off and too highly specified vessels will suffer when the market changes.

Newbuilding decisions today quickly become an issue for the sale and purchase market tomorrow and until an owner can guarantee that he or she is not going to be left holding a well intentioned but largely untradable and unsellable environmental white elephant, the future of widescale LNG-powered shipping remains in the balance.

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**Inséré le 18/08/12 Open Forum Enlevé le 18/09/12**

## **Green Ship of the Future expands project portfolio**

**Almost three years after setting sail towards more environmental friendly and energy-efficient shipping, the Danish maritime industry initiative called ‘Green Ship of the Future’ is still producing results.**

Today, products and results from the initiative are implemented on more than 100 vessels. Although primarily a Danish initiative, 'Green Ship of the Future' will also welcome foreign companies if they are performing a project with a Danish concern, a spokesman said.

Many elements are coming together in the project: research, development, demonstration, innovation, education, training and dissemination of knowledge. Those involved include: systems for recycling heat energy, optimisation of the hull, propellers and rudders, optimisation of the draft and speed for a given route and arrival time and monitoring the fouling of hulls and propellers. Engine technology is an especially essential factor for achieving the planned benefits.

Initially, 'Green Ship of the Future' consisted of four companies, Aalborg Industries, AP Moller-Maersk, MAN Diesel and Odense Steel Shipyard, who joined together with the primary objective of developing and demonstrating green technologies within shipping and shipbuilding. The focus was on developing solutions based on what was technical possible instead of basing the development solely on the demands of shipowners and shipyards.

Soon after, more than 15 partners had joined. This led to a more formalised partnership, and the group of companies decided on performing a so-called 'low emission' study on a 8,000 TEU containership and a 35,000 dwt handysize bulk carrier where the results from the individual projects were accumulated with respect to interdependent interference and compared with an estimate of the extra cost of implementation of the green technologies.

The 'low emission' studies of the two vessel types showed that it was possible to save up to 7.2 % on CO<sub>2</sub>, 79.1 % on SO<sub>x</sub> and 98.6% on NO<sub>x</sub> regarding the 35,000 dwt bulk carrier and 14 % on CO<sub>2</sub>, 90 % on SO<sub>x</sub> and 80 % on NO<sub>x</sub> on the 8,000 TEU container vessel without lowering the speed, or changing main parameters of the vessels. So mission accomplished for NO<sub>x</sub> and SO<sub>x</sub>, whereas initiatives were still required to meet 30% CO<sub>2</sub>, the organisers said.

Another new initiative is expected to be the low-emission study of a ropax ferry. The focus will naturally be on elements within machinery and propulsion, but the plan is also to look at other areas affecting emissions.

General secretary, Christian Schack, said, "In the ferry study, we are initiating new projects concerning HVAC, isolation, windows and lighting, but there might also be projects within looking at how the design of the cargo deck can decrease the loading time in port and thereby help decrease the overall ship speed at sea and still keep schedule with a reduction of emissions as a result."

The IMO's decision to reduce the sulphur level in fuel oil to 0.1% by 2015, or clean the exhaust gas to an equivalent level brings an interesting challenge regarding retrofitting of ships sailing in ECAs.

'Green Ship of the Future' has established a new project where a group of companies will work together on comparing various abatement technologies to fulfil the ECA requirements, ie the use of scrubber technology, the use of LNG as fuel and the use of low sulphur fuel/distillate.

The objective of the project is to set up practical solutions, as well as uncovering the financial aspects regarding installation, operation and maintenance of the three alternatives. Basis for the retrofit project is a newly built 38,500 dwt tanker from NORDEN (see page 24) and the project partners are expected to deliver results during 2011.

Another project involves the reduction of aerodynamic resistance thereby reducing fuel consumption. In the project, the handysize bulk carrier Seahorse 35 from Grontmij/Carl Bro is evaluated with the help of FORCE Technology.

This initiative is endorsed by the Danish Ministry of Economics and more importantly, the SO<sub>x</sub> abatement study and the two initial studies were jointly financed by the Danish Maritime Fund and the project partners.

## **Lobbying**

Denmark has been heavily involved in lobbying at the IMO on climate change for an international greenhouse gas (GHG) fund together with Cyprus, Denmark, Marshall Islands, Nigeria and the International Parcel Tankers Association (IPTA).

At a GSF conference and workshop held last September, Christian Breinholt, deputy director general of the Danish Maritime Authority outlined the Danish viewpoint.

He said that it was necessary to have a global agreement taking into account the characteristics of international shipping. His rationale behind the proposal took into account a vessel's longevity and the growth in international shipping. The contributions would come from all sectors in offsetting GHG emissions.

Breinholt explained the key elements of the scheme, which included a bunker fuel contribution thus-

1. Mandatory registration of bunker fuel suppliers.
2. Based on the bunker delivery note as evidence.
3. Collection by registered bunker fuel suppliers.
4. Direct transfer to the international GHG fund.
5. All marine fuels for vessels in international trades.

As for the revenues collected, these would be used for -

1. Mitigation and adaptation activities.
2. R&D projects.
3. Technical co-operation with the IMO.
4. Administrative expenses for the fund's operation.

TankerOperators

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**Inséré le 20/08/12 Open Forum Enlevé le 20/09/12**

## **Toy stories**

If you thought toy boats were just for fun, think again. The exhibits in a fascinating Nautical Marine Museum Greenwich exhibition are works of art, and tell us much about the people who played with them and the world in which they were made.

By Kristian Martin

In 1913, as the clouds of war gathered over Europe, Germany's Kaiser Wilhelm II walked into a Berlin toy shop. Looking around the shelves, he became concerned by the lack of toy submarines on sale. He approached the shop assistant and remarked: 'It is necessary that young Germans understand well that the German maritime strength is invincible, and that the future lies not only on but under the water.' The Kaiser believed that an abundance of toy submarines would persuade children and their parents of the might of the German U-boat fleet. From then on, he took a keen interest in the types of toys being made by German manufacturers, convinced of their power as instruments of propaganda.





Today, we often overlook or undervalue the social significance of toys. They are essentially seen as a source of fun for children and little more. Yet toys made in the 19th and early 20th centuries had a different function, and can provide fascinating insights into the societies that produced and consumed them. Toy-makers of these times often marketed and sold

their designs on the basis of the important role they could play in the instruction and education of children.

Just as dolls, dolls' houses and domestic toys prepared daughters for becoming wives and mothers, toys could nurture in sons the skills needed for a job as an engineer, scientist, accountant, even a clergyman, or, in the case of toy boats, for a career at sea. Toys replicated the adult world in miniature and provided an apprenticeship for later life.

## All change

The types of toys made and bought were therefore closely linked to social events and trends at the time, and reflected the immense changes taking place in Europe. The Industrial Revolution, in particular, created a climate in which toy-makers could grow and prosper. Advances in technology inevitably had a huge impact on people's lives, and a significant area of rapid change was ships and shipping, with steel and steam replacing wood and sail. The burgeoning press, filled with stories of ship launches and naval prowess, brought these maritime developments into the home. In societies where navies were bound up with national pride and identity, people's imaginations were fired by these achievements, and toy-makers capitalized on the interest and enthusiasm of children and their parents.



Industrialization also brought new machines to toy factories that could stamp, cut, roll, fold and print metal faster than ever before.

This was essential to meet the growing demand for toys from an expanding middle class with growing leisure time, income and inclination to shop. The heart of the toy-boat industry was continental Europe, where German makers such as Mrklin (founded in 1859),



Gebrüder Bing (1863) and Georges Carette (1886) dominated the market. With a reputation for high-quality toys, they set the standards for toys and exported them around the world. Only French manufacturers, such as Radiguet (founded in the mid-19th century) and Jouet de Paris (1902) had a comparable impact on the market during this period, though Britain, Italy, Spain and Russia also had important toy-boat industries.

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**Inséré le 20/08/12 Boeken Books Enlevé le 20/09/12**

## **"Scheepvaart 2011".**

Bij Uitgeversmaatschappij De Alk verscheen onlangs de recentste editie van het jaarboek **"Scheepvaart 2011"**. Het werd samengesteld door **G.J. De Boer**. Het boek biedt een diepgaand overzicht van alles wat reilt en zeilt in de scheepvaartsector in de lage landen. Na een grondige evaluatie en overzicht van de toestand van het internationale scheepvaartgebeuren als inleiding, bespreekt het boek rederijen, scheepswerven, en de maritieme sector van Nederland, België en Luxemburg gesitueerd in een internationaal kader. Ook de marine komt aan bod. Het boek geeft een compleet overzicht van alle schepen van Nederlandse, Belgische en Luxemburgse rederijen en alle hierover beschikbare gegevens. Bovendien is het boek geïllustreerd met talrijke mooie keurenfoto's. Ook dit jaar werd het boek op A4-formaat uitgeven.

Net als de vorige uitgaves bevat **"Scheepvaart 2011"** een schat aan informatie waardoor een dikke aanrader voor iedereen die hoe dan ook maar iets met 'onze' scheepvaart te maken heeft. **"Scheepvaart 2011"** (ISBN 978-90-6013-361-3) telt 536 pagina's en werd als softback uitgegeven. Het boek kost 49.90 euro. Aankopen kan via de boekhandel of rechtstreeks bij Uitgeverij De Alk, Postbus 9006, 1800 GA Alkmaar. Tel. +32(0)72-5113965, [www.alk.nl](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)

**Door : Frank NEYTS**

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Inséré le 22/08/12 OPEN FORUM Enlevé le 22/09/12



"Il existe des autoroutes de la mer depuis très longtemps, par exemple entre la Scandinavie, la Grande-Bretagne et le Benelux", a souligné Mike Garratt, directeur de MDS Transmodal. Et cela marche. Pourquoi? "Parce qu'on utilise de gros bateaux qui sont très compétitifs par rapport au transport routier de longue distance et qui ne transportent pas les chauffeurs, d'où des économies." Pour relancer une idée qui, ailleurs, a souvent pris l'eau, les ministres français et

espagnol en charge du transport maritime ont signé en février 2009 une déclaration commune visant à créer des autoroutes de la mer entre leurs deux pays d'ici fin 2009: de Nantes/Saint-Nazaire vers Gijón et Vigo, et du Havre vers Algesiras via Vigo. Et d'autres projets existent concernant le Portugal, l'Italie, Malte.

## **Verront-ils le jour? L'affaire est politique.**



Les spécialistes réunis se sont montrés très explicites à l'endroit des mille trois cents professionnels venus les écouter. Henri de Richemont, auteur d'un rapport sur le sujet remis en juillet 2009, a martelé "la nécessité d'un soutien fort des pouvoirs publics pour assurer la viabilité et la fiabilité" des autoroutes de la mer. L'ancien sénateur n'est pas du genre caressant: "Pour l'instant, ce n'est qu'un slogan politique derrière lequel il n'y a rien. Ce ne sera une alternative crédible que si l'État s'investit."

## **Approuvé à l'unanimité.**

C'est qu'une autoroute de la mer n'est pas une ligne maritime à proprement parler, même si la régularité est bien sûr recherchée; et ce n'est pas davantage du cabotage. "Il n'existe aucune définition officielle, personne ne sait ce que c'est en droit

international, a souligné Fernand Bozzoni, président de l'armement Socotra et du Bureau de promotion du shortsea shipping (BP2S).

Le concept est apparu dans le livre blanc 2001 de la Commission européenne sur la politique des transports à l'horizon 2010. L'article 12 bis ajouté en 2004 au programme RTE-T (Réseaux transeuropéens de transport) en donne une définition en creux: il s'agit de réduire la congestion routière et d'améliorer la desserte des régions périphériques et insulaires, en créant ou renforçant des lignes existantes. Une autoroute de la mer doit relier au moins deux États membres."

## **Le merroutage, et l'aménagement du territoire**

Le but assigné étant de prolonger en mer des axes terriens, et pour ce qui concerne notre pays de s'épargner le passage des Pyrénées ou des Alpes, les armateurs n'ont pas été sans relever qu'il s'agit somme toute d'une mission d'aménagement du territoire, régaliennne, qui ne saurait leur être dévolue sans compensation.

## **Et c'est là que le bât blesse.**

L'Europe a bien prévu des aides à l'État ou aux collectivités locales et aux entreprises, mais l'effort est jugé très insuffisant. "Si l'on considère qu'une autoroute de la mer relève du marché, elle dépend de l'offre et de la demande, a estimé Fernand Bozzoni, or il n'y a pas de demande, et les investissements incombant au privé sont exorbitants au regard des incitations. S'il y a nécessité, la puissance publique doit imposer ces autoroutes et les chargeurs, transporteurs, armateurs et services portuaires devront dialoguer et dégager une solution pragmatique. [Il faut nommer] un Monsieur autoroute de la mer pour créer les conditions d'un dialogue constructif."

## **Adopté à l'applaudimètre.**

Quels navires exploiter sur ces autoroutes? "Des bateaux suffisamment dimensionnés pour consommer moins de fuel que les camions transportés", estime Jean-Marc Roué, paysan légumier à Plougoulm et président de Brittany Ferries (CM 217), premier employeur de marins français. Sa compagnie n'a pas répondu à l'appel d'offres sur l'Espagne et le Portugal, notamment par crainte d'une "cannibalisation d'une ligne par l'autre".



L'expérience récente de cabotage intra-européen par LD Lines est riche d'enseignements. Cette compagnie, qui a opéré l'autoroute Toulon-Civitavecchia (port de Rome) pendant cinq ans, a jeté l'éponge au printemps 2009. Christophe Santoni, son directeur général, en a tiré une douloureuse leçon économique: "Ça a quand même été un test à 15 millions d'euros, mené avec l'armateur italien Grimaldi, au moyen d'un navire transportant chauffeurs et tracteurs [cent cinquante places]. L'axe choisi permettait un service en ligne droite, qui faisait moins pâtir de sa lenteur, à raison d'une liaison trihebdomadaire dans chaque sens. Ce qui était insuffisant pour créer une demande nouvelle au démarrage, d'où la nécessité d'une aide à ce moment-là. L'État a accordé 1 million d'euros sur trois ans, plus quelques aides européennes, ce qui est relativement faible. À la fin, notre taux de remplissage atteignait 65 %, mais le prix demandé au transporteur routier aurait dû être moindre pour être plus compétitif que la route. Nous avons donc mis fin à l'aventure pour ne pas creuser les pertes.

La fréquence, qui doit être élevée pour intéresser le transporteur, entraîne des investissements très lourds." Le sénateur de Richemont estime que les navires étant des infrastructures, l'État doit les construire et les faire exploiter par des privés, après appel d'offres. Ensuite, "il doit choisir une ligne maritime, dont il faudra assurer la fréquence, la régularité, le service, même si le navire n'est pas à pleine charge, et la pérennité de la ligne doit être garantie après la fin des aides. Il faut prendre exemple sur le transmanche Douvres-Calais".

Le 27 janvier dernier, la Commission européenne a autorisé les États français et espagnol à contribuer de manière significative à la création de l'autoroute de la mer Montoir-Gijôn, Montoir étant le terminal roulier du port de Nantes/Saint-Nazaire. Chacun va pouvoir verser 15 millions d'euros d'aides publiques à Grimaldi Louis Dreyfus Atlantique, société rassemblant les deux armateurs; une somme qui sera complétée d'une subvention européenne de 4 millions. Les parlements nationaux ont leur mot à dire. Le nôtre, pensait-on en janvier, serait en mesure de s'exprimer dès le mois suivant. L'ouverture de la ligne était attendue dès la seconde quinzaine de mars, à raison, dans un premier temps, de trois rotations par semaine. Avec l'espoir, à terme de débarrasser la route de quatre vingt mille poids lourds et de désengorger l'Ouest pyrénéen.

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## **Fuel Switching Safety**

A Marine Safety Alert was issued to increase awareness and reiterate general guidance on fuel systems and fuel switching safety in an effort to prevent propulsion losses. After a noted decrease, there has been a recent increase in the number of reported loss of propulsion incidents on deep

draft vessels within the Eleventh Coast Guard District. Coast Guard studies and review of marine casualties indicate that lack of maintenance and testing of certain systems, including fuel oil systems, is one of the leading causes of propulsion failures. Advanced planning and careful fuel system management are critical to safely switching fuels. This is especially important if fuel switching is not routine practice. Proper procedures, training, and maintenance are essential for vessels to safely switch between heavy/intermediate fuel oils and marine distillates. Additionally, vessel operators need to have a good understanding of their system requirements and limitations, and determine if any modifications may be necessary to safely switch between intended fuels.

## **Managing Risk**

Extensive analysis of propulsion losses has revealed certain trends among vessels operating on marine distillates. In order to manage risk and improve safety, vessel owners and operators should:

- Consult engine and boiler manufacturers for fuel switching guidance;
- Consult manufacturers to determine if system modifications or additional safeguards are necessary for intended fuels;
- Develop detailed fuel switching procedures;
- Establish a fuel system inspection and maintenance schedule;
- Ensure system pressure and temperature alarms, flow indicators, filter differential pressure transmitters, etc., are all operational;
- Ensure system seals, gaskets, flanges, fittings, brackets and supports are maintained and in serviceable condition;
- Ensure a detailed system diagram is available;
- Conduct initial and periodic crew training;
- Exercise tight control when possible over the quality of the fuel oils received;
- Complete fuel switching well offshore prior to entering restricted waters or traffic lanes; and
- Test main propulsion machinery, ahead and astern, while on marine distillates.

Additionally, the following guidance may assist vessel owners and operators in preventing propulsion losses when operating on marine distillates:

- Monitor for accelerated wear of engine/fuel system components and evaluate maintenance period intervals;
  - Ensure fuel viscosity does not drop below engine manufacturer's specifications;
  - Ensure proper heat management of fuel systems to maintain minimum viscosity values;
  - Make appropriate fuel rack adjustments to account for potential fuel pressure differentials between residual fuel oils and marine distillates;
  - Determine speed limitations for stopping the engine ahead and ordering an astern bell to ensure timely engine response; and
  - Ensure start air supply is sufficient and fully charged prior to maneuvering.
- This safety alert is provided for informational purposes only and does not relieve any domestic or international safety, operational or material requirement. Developed by the Prevention Division, United States Coast Guard District Eleven, Alameda, CA.

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**Inséré le 26/08/12 Open Forum Enlevé le 26/09/12**

**High quality data needed**

## **Anyone involved in the commercial tanker market understands that market behaviour is influenced by psychology, perception and sentiment.**

These factors have been responsible for a significant percentage of the market's volatility down the years. Market observer McQuilling Services also believed that the fundamentals of supply and demand, both short and long term, interact to influence the market's behaviour substantially. The best way to demonstrate this is by the careful data analysis and presentation.

Unfortunately, McQuilling said, that due to the industry's global scope and relative adolescence in terms of data collection and reporting compared to other commodity markets, the tanker sector does not lend itself to readily available, high quality data.

This results in a wide range of interpretation, especially when trying to analyse near term behaviour, or project future market trends. A particularly difficult task is to understand and measure changes in tanker demand and to project this into the future. Most pundits have agreed that tanker demand would be challenged during the coming years due to the severe economic downturn and the corresponding reduction in projected world oil consumption (see page 4). At the same time, many 'experts' have said that the emergence of long haul trades would boost tonne/miles, resulting in a net increase in tanker demand in the coming years from 2008.

McQuilling decided to investigate whether such a shift would lead to an increase in tanker demand. The consultancy started with a historical trade VLCC matrix. This matrix was a grouping of actual trade flows, both in tonnes and tonne/miles, from the major loading areas to the major discharge regions. The 2008 data was taken from LMIU Apex.

First, McQuilling recorded tonnes and tonne/miles for each major VLCC trade route. As a result, 40 trade groupings were defined. These were split into trade distances where half were considered as long haul trades and the other 50% short haul trades.

### **Total VLCC cargo shipped in 2008**

	<b>Longest 20 trades</b>	<b>Shortest 20 trades</b>
<b>Mill tonnes</b>	<b>680</b>	<b>232</b>
<b>Total cargo</b>	<b>74.6%</b>	<b>25.4%</b>
<b>Average distance (nm)</b>	<b>7,554</b>	<b>3,038</b>

### **Total VLCC cargo demand in 2008**

	<b>Longest 20 trades</b>	<b>Shortest 20 trades</b>
<b>Billion tonne/miles</b>	<b>5,132</b>	<b>704</b>
<b>Total cargo</b>	<b>88%</b>	<b>12%</b>
<b>Average distance (nm)</b>	<b>7,554</b>	<b>3,038</b>

*Source: LMIU Apex, McQuilling.*

The average long haul distance was 7,554 miles, while the average short haul trade was 3,038 miles. It was found that 15 top trades in terms of cargo moved last year came into the long haul category and 16 of trades in terms of tonne/miles also came into that grouping. Long haul trades accounted for 88% of the total VLCC demand in 2008. It became clear that the progression to long haul trades was indeed, a mature one.

Second, the consultancy identified the trades where incremental volume growth was likely to occur in the future. For example, the South America/Far East and West Africa/Far East trades. Some 17 of these 'growth' trades were identified, 13 of which were included in long haul trades and the remaining four in the short haul group.

McQuilling then assumed that these trades would experience a 5% cargo volume growth at the expense of

the trades not identified. In total, this 5% increase amounted to 35.5 mill tonnes, or around 700,000 barrels per day, or to put it another way, 3.9% of last year's total VLCC cargo volume.

Since the analysis only covered a trade shift, or volume redistribution, the 35.5 mill tonnes had to be deducted from the non-growth trades to preserve the total cargo transported in 2008. This resulted in the reduction of six long haul and 16 short haul trades.

Following the adjustments to the cargo volume by trade, McQuilling then calculated tonne/mile demand for each trade using the new volumes and added up tonne/miles demand for all 40 trades. The results proved interesting, the consultancy said. For example, a 5% increase in cargo carried on key growth routes (amounting to 35.5 mill tonnes or 3.9% of the total volume transported on

VLCCs last year) only resulted in an increase of 1.2% in total tonne/miles to 5,903 bill from 5,835 bill tonne/miles.

Consistent

McQuilling said that this was consistent with what had been observed for many years, which was that changes to the trade matrix for crude and dirty petroleum products were incremental and relatively small overall, even when specific trade volumes grew or shrank substantially. Therefore, when discussing dirty tanker demand it is important to include all the trades, not just those with promising growth characteristics.

This result's practical application is the observation that a shift towards longer haul trades will not carry the impact that may be expected by just looking at the individual trades involved.

Turning to the clean products trades, this result might not be true as arbitrage trading is a larger fraction of clean products shipping demand. This demand may vary substantially year-on-year based on changes in the relative attractiveness of product prices from various sources worldwide.

In the context of today's market, expectations are that total oil demand will decline by well in excess of 2 mill barrels per day this year from 2008 levels. The July IEA report calls for a recovery in oil demand of only 1.4 mill barrels per day. This is less than half of the demand fall off this year.

Therefore, McQuilling said that it finds it difficult to argue that shifts in the VLCC trade matrix towards longer haul routes will produce net positive VLCC demand growth this year, 2010, or even 2011, compared to 2008 levels. TO

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**Inséré le 28/08/12 Logboek News Enlevé le 28/09/12**

## **Slow steaming lubricants warning issued**

The process and challenge of procuring marine lubricants has taken on greater complexity and significance in the wake of shipping turning to slow steaming.

Total Lubmarine warned that the North American ECA, which will be effective from 2012, will impact 50% of maritime traffic, forcing shipowners and operators not typically operating in ECAs to begin use of lower basicity cylinder lubricants required for lower sulphur fuels.

This increasing trend is likely to create issues for shipowners and operators when leaving ECAs, as lower BN lubricants are not best suited to operation with higher sulphur fuels outside ECA boundaries.

Moreover, the use of lower basicity cylinder lubricants within ECAs runs directly counter to the lubrication requirements for slow steaming or other conditions outside ECAs, which conversely require owners and operators to run specific lubricants.

In the case of extra slow steaming to as low as eight to 12 knots, this significantly increases stresses and strains on a 2- or 4- stroke marine engine.

Patrick Havi, global marketing manager, Total Lubmarine, said: "We know that ship operators are under pressure to deliver against current and impending SOx and NOx regulations, reduce bunker fuel costs through slow steaming and meet safety standards to protect both their workforce and the environment.

"At the same time they need to maintain a clear competitive advantage through reliable, consistent operations and ensuring profitability. Faced with this, the industry needs a new generation of marine lubricants that not only offer significant cost savings and better performance, but are also compatible with different levels of sulphur, and the great demand for slow steaming," he said.

Total Lubmarine claimed that it had been addressing these issues for some time and has developed the complete solution to this two-fold challenge. It has been tested more extensively than any other lubricant on the market today, against both high and low levels of sulphur heavy fuel oil (HFO), and has been validated by customers using distillates and slow steaming, the company said.

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**Inséré le 30/08/12 Historiek Historique Enlevé le 30/09/12**

## **Princess Alice**

by PATRICIA O'DRISCOLL

Towards the end of 1878 someone pinned a black-edged memorial card up on the wall of a waterfront pub. It was still there in 1955 when I saw it and went Gloser to read the words: 'In memory of nearly 700 passengers who perished by the sinking of the Saloon Steamer Princess Alice in the Thames off Woolwich, September 3rd, 1878.' Even then river people still talked about the Woolwich Disaster, although details were growing hazy as the years went by. A great-uncle here, a distant cousin there, had had some connection with the tragedy.

In 1878 the London River was an incredibly congested stretch of water. Collisions were not uncommon, and for every collision there were many nearmisses, never reported and so never taken into account officially. In fact some 12 years previously there had been a collision - the vessels were named Metis and Wentworth - in the same spot, just above Tripcock Point, where the Princess Alice was lost.





She was a paddle-steamer, one of many which took excursionists to places like Rosherville, near Gravesend, where the pleasure-gardens attracted many Londoners. On this particular Tuesday in 1878 she was on a round trip between London and Sheerness, calling at Rosherville on the way back. She was not a particularly suitable vessel for the work she had to do, and had been built at Greenock in 1865 as the Bute. She was a long, narrow-gutted sort of skip, measuring 219 ft x 20 ft,

being constructed of 1/4" iron plates over frames two feet apart. Although she had five bulkheads they were not well positioned - for instance there was a distance of 32 ft between the for'ard bulkhead and the next one (immediately abaft the engine), which was considered at the Inquest to be too much of a gap for the section of the hull carrying the most weight. When she was built it was not compulsory for such a vessel to have watertight bulkheads.

Nor were her lifesaving arrangements impressive - 12 lifebuoys and two boats, one of them fitted as a lifeboat - considering that she was licensed to carry 936 passengers between London and Gravesend (and 486 below this point). However, she had been plying the Thames for 14 years without needing them, and when they were needed in earnest there was to be no time to launch either of the boats.

The weather was fine and, although a weekday, there were plenty of people about, and when the pleasure steamer left Rosherville she was so crowded that a number of would-be passengers had to be left behind, to follow on other boats. As the Princess Alice proceeded upriver the Bywell Castle prepared to leave Millwall Dock, where she had been in the Dry Dock for repainting. Normally she traded between Newcastle and the Mediterranean. Her Master, Captain Harrison, was taking her around to the Tyne in ballast, and he engaged a number of 'runners' for the 36-hour trip, as he intended to sign-on a crew at Newcastle. Although he had been 37 years at sea he had only navigated the Thames on 13 occasions, so he employed a Pilot.



Bywell Castle rams the Princess Alice forward of the starboard paddle wheel housing

Bywell Caste was an iron screwsteamer, well-decked, and measuring 250 ft x 32 ft. There were 23 men aboard, and as she proceeded down-river 18 of them were on deck, as the watches had not yet been set. She went down at half-speed (about five knots). The two craft were shortly to collide, and here one must open a line of research suggested by practical experience of the River. What was the predicted height of the tide at the time of the collision, and what was the force and direction of the wind? These facts took some time to establish, but were as follows. High Water at London Bridge was at 6.11 pm and the tides were "taking-off". The height of tide predicted was 19 ft 2 ins, and as the wind was light - and variously reported as being NE and SW - it probably flowed according to prediction. Seen within the context of predictions for that month, it was a fairly big tide, but not the biggest of the series (22 ft 2 ins, on the 28th) nor the smallest (16 ft 5 ins on the 21st). As the collision happened at about 7.46 pm the current would not be at its strongest, as the tide runs hardest in its middle two hours.

The Princess Alice was bound up over the ebb, and accounts give her speed as 11 knots, but this is an uncommonly high speed in the circumstances. With the tide in her favour, Bywell Caste was only making five knots: someone is wrong somewhere.

Although navigation of the River was governed by Thames Conservancy Bye Laws, the applicable set having been published in 1872, evidence at the Inquest shows how little notice was taken of them -and how few river users knew that they existed. The Rule of the Road at Sea was better known, and it was stated that the relevant passage of the 1872 Bye Laws was identical in stating the action to be taken when two steam vessels were meeting almost end-on, so as to involve the risk of collision. Both ships must port their helm.

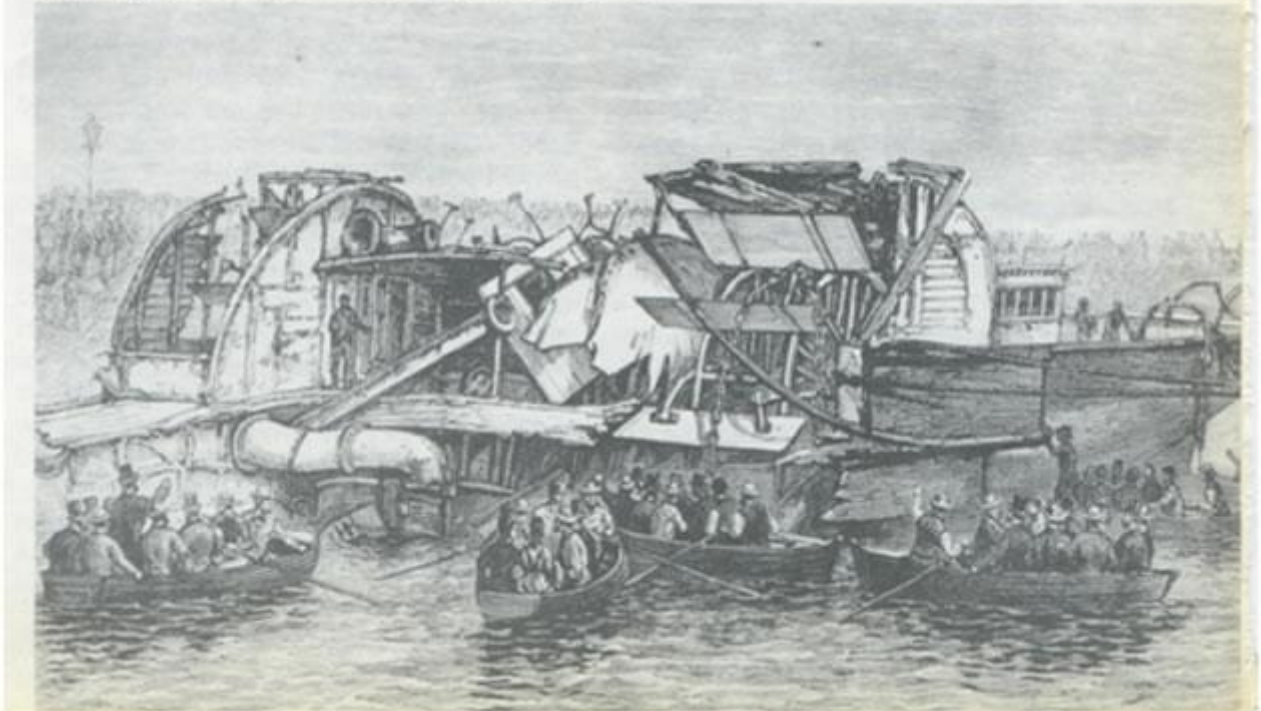
A century ago there was no set positioning in the River depending on whether a ship was bound inwards or outwards. The state of tide decided the matter, and witnesses described how they took more notice of what the tide was doing than of the Rule of the Road. It was the usual custom for a steamer punching the tide to go from Point to Point in order to avoid the worst of the current, but as she came up Barking Reach the Princess Alice was hugging the South shore, whereas she would normally have been on the opposite side of the River. 'Working the slack' in these circumstances is common enough today. While craft should keep to the starboard side of the channel, in practice a skipper will often seek out stretches of eddy tide, where the opposing current is weaker, in order to make better progress.

When rounding any corner against the tide, there is a danger of losing control of the vessel as the current strikes the ship's bow on its inside counteracting the effect of the helm. Tripcock Point,

which the *Princess Alice* was rounding immediately before the collision, had an additional hazard which could have been unknown to Eyres, the helmsman, who was a last minute replacement for another crew member who was due for a night off.

Tripcock Point deflected an ebb tide so that an offset current which ran North across the River towards Beckton Gasworks Pier affected the River for about 200 yds, and then gave place to the ebb again. A ship coming upstream around the Point encountered two different forces in succession - first the eddy, pressing on the port bow and opposing the helm, and then the ebb would strike the starboard bow and assist the helm. So the ship might first be carried towards midstream giving, to the Pilot of a ship bound down the impression that she was heading for the North shore. Then, as the ebb caught her, she would make for the South shore again. The longer the ship the greater the effect would be.

The after-part of the *Princess Alice* on shore below Woolwich.



If Eyres was unprepared for this he could have lost control of the ship. However the Master was directing him and should have given the appropriate helm order to anticipate the effect of this eddy. But although Eyres was saved, Captain Grinstead was drowned, so we cannot be certain on this point.

Both vessels had their navigation lights burning, and a little while before the collision Pilot Dix of the *Bywell Castle* saw the pleasure boat's port light 'over the land', and knew that she was there. Similarly, the lights of the screw steamer were seen aboard the *Princess Alice*. Here we must mention that the helm orders as given then were the same as for a tiller - if you wanted the ship's head to go one way, you turned the wheel in the opposite direction. It was not until 1931 (in Great Britain) that the steering orders were altered to what they are today. So to the modern seaman the part which follows reads strangely: it's like looking into a mirror - everything is reversed.

By the old method, the *Bywell Castle* ported her helm to keep over towards Tripcock Point. As the vessels neared one another, the Pilot observed that the other steamer had also ported, and that he thought she was heading for the North shore towards Bull Point, as would have been, normal in the circumstances. But immediately afterwards the *Princess Alice* starboarded her helm. The engine-room telegraph was rung to Stop, and then Full Astern, but it was too late: the screw steamer hit the *Princess Alice* by the starboard paddle wheel housing, and penetrated for 17 ft, forcing her under. Her passengers were soon struggling in the water, and although those on the *Bywell Castle* and other vessels made every effort to save life, only 69 people were saved out of approximately

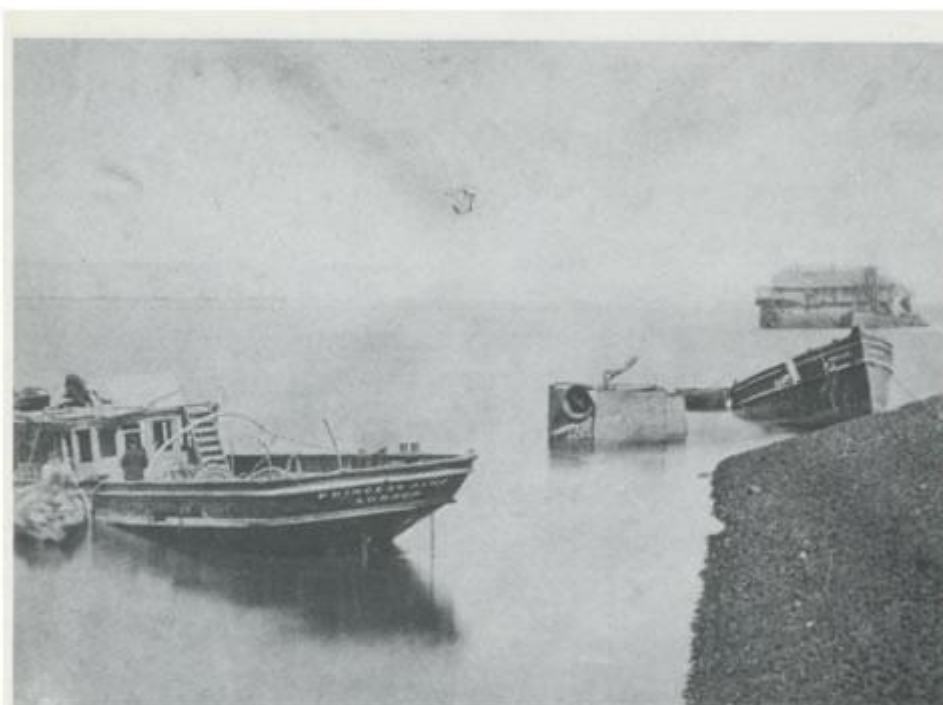
700. Due to industrial effluent and a sewage outfall, the River was extensively polluted in the area, and it was suggested that this contributed to the heavy loss of life. The science of pathology was then undeveloped, so that we do not have the benefit of a proper autopsy report on the victims, as we would have today. So it could have been an additional hazard, but no more: one can drown in the purest of water!

The Princess Alice sank within four minutes, it was dark, and undoubtedly Victorian fashions and the fact that swimming was not a common accomplishment weighed against the passengers' chances of survival. Even now, with all the safety equipment carried by modern passenger boats, the loss of life would be heavy if such a craft sank. Everything happens quickly, and the average passenger has no idea of what to do in an emergency: he is out of his element. Some will panic, some will be children, or in charge of children, some non-swimmers, and some will be in poor health, so that their bodies cannot cope with the extra stress. Apart from lighter clothing, today's passengers are the same as those aboard the Princess Alice.

The difference is that with today's PLA River Bye Laws, improved navigational aids, and the control exerted by the Thames Navigation Service with its extensive radar coverage and VHF radio communication such a collision is much less likely to happen. And there is a lot less passenger traffic on the River, which is also much cleaner. In 1878 the PLA lay 30 years in the future.

And in 1878 the authorities at Woolwich had the task of recovering bodies and laying them out for identification in a special shed at Woolwich Dockyard. There was no refrigeration, no motor transport, no telephone and no radio, but nevertheless they coped surprisingly well with this major disaster. The main inquest was held at Woolwich, and was of exceptional duration. In his book 'The Great Thames Disaster', published in 1965, Mr Gavin Thurston, himself a Coroner, gives full details of the proceedings, commenting from his own experience. It was revealed in evidence that although there were Bye Laws regulating traffic on the River, craft navigating the Thames were seen to be disregarding them every day. A serious accident was inevitable, and it was surprising that one had not happened before. The Coroner's jury held the Princess Alice to blame for the collision, and the Board of Trade Inquiry found likewise.

A century later the incident is almost forgotten locally. Take any dozen people at random in Woolwich, and it's a safe bet that few of them will have heard of it. I was fortunate in knowing Stan Fish, who died early in 1970. His father and one of his father's friends had worked on Thames' pleasure steamers as engine-room callboys, orders from the bridge to the Engineer. Stan's father had come ashore to an office job, but his friend was still employed on the Princess Alice. The following morning he heard of the collision and feared that his friend was among those lost, but later in the day he walked the wharf and told of the chance by which he had survived.



Picture shows the two halves of the Princess Alice beached at Woolwich.

He had been sent ashore at Rosherville to collect the book of takings from the accounts clerk there, but returned to the ship with the news that the clerk had not yet finished his accounts. So the Purser of the Princess Alice told him to wait behind and bring the book aboard the Albert Edward, another boat belonging to the same company

which had been hurriedly brought into service to carry the crowd left behind by the Princess Alice. As they came upriver they noticed that the fairground at North Woolwich Gardens was silent, and all was in darkness: normally it was brilliantly lit at night, and they wondered what had happened. When they reached the steamboat pier they soon found out.

Stan probably knew more about the loss of the Princess Alice than anyone else alive, and it is a great pity that he and the author of 'The Great Thames Disaster' never met. He had a number of souvenirs of the ship (later raised and beached), but lost them in an air raid on Woolwich in 1918.



*The assistance of the Tidal Division of the RN Hydrographic Department and the Local History Library of the London Borough of Greenwich is gratefully acknowledged.*

On 18 March 1880, by Order in Council, new Rules and Bye Laws for the Navigation of the Thames became law, introduced because of the state of affairs on the River revealed by the aftermath of the Princess Alice disaster. Today, in the PLA 'Shipmaster's Guide' you can see it clearly stated: Power-driven vessels navigating against the tidal stream are required to proceed with care when approaching a point or sharp bend and likewise when approaching a bridge to avoid risk of collision with a vessel coming in the opposite direction. The latter vessel has the right of way.'

But it still boils down to the man in charge. The wrong decision, a helm order given at the wrong time, can still cause a collision in 1978, the odds against it have just

lengthened.

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**Inséré le 01/09/12 Historiek Historique Enlevé le 01/10/12**

## **The Risks of Chasing Pirates on Land**

Radical change: So far, Operation Atalanta, has limited the pursuit of pirates to the sea

How wide is a beach? How long are internal waters? Whoever thought that German lawmakers would ask such questions?



Yet that is what is going to happen in the coming weeks when the German Parliament will be asked to support what could turn out to be one of the European Union's most dangerous missions.

The mission involves pursuing Somali pirates onshore, the first time the Union has considered such an option. So far, the

E.U. mandate off the Horn of Africa, known as Operation Atalanta, has limited the pursuit of pirates to the sea.

The E.U. foreign policy chief, Catherine Ashton, set out her goal to foreign ministers when they met in Brussels in late March. The changes to the Atalanta mandate, Mrs. Ashton said, would allow it "to take more robust action on the Somali coast."

Gernot Erler, deputy parliamentary leader of the opposition Social Democrats and a specialist in foreign policy, is skeptical. "This is such a radical change to the mandate. Where will it all end? It could lead to mission creep," he said.

Austria and Spain, which along with Germany considered blocking the move, have similar reservations. But they, too, agreed to pass the issue to the military planners.

Militarily, the Union first became involved in Somalia in late 2008, when it established the European Union Naval Force Somalia. Since then, the operation has been protecting ships belonging to the U.N. World Food Program, which brings food aid to the tens of thousands displaced persons in Somalia.

Along with NATO's Operation Ocean Shield and the Combined Task Force, the E.U. force has been deterring and preventing piracy and robbery off the coast of Somalia, protecting one of the world's most important shipping routes.

Results have been mixed. According to a new report published last month by the One Earth Future Foundation, a nongovernmental organization specializing in global governance, Somali pirates continue to be a serious threat. By the foundation's estimates, attacks in 2011 cost the shipping industry between \$5.3 billion and \$5.5 billion for security or re-routing.

The average ransom increased to around \$5 million in 2011 from \$4 million in 2010.

"While 2011 saw a lower success rate for Somali pirates, the increased price of ransoms meant that pirates received greater revenue for fewer hijackings," wrote Anna Bowden, the main author of the One Earth Future Foundation report. The number of hostages of seafarers also increased, to 1,118 last year from 1,090 in 2010. Twenty-four were killed.

The European Union, however, is not naïve enough to believe that fighting the pirates is a panacea. Along with the United States, it has been pouring money into the Transitional Federal Government of Somalia to try to rebuild the failed state.

After 16 years of civil war, Somalia is plagued with famine, instability and such weak government and institutions that it has turned into a haven for Al Qaeda supporters. E.U. diplomats say the country needs a long-term strategy to bring stability, create jobs and end sectarianism. In the meantime, they say they also have to deal with short-term issues, and that means combating piracy.

France, Britain and the Netherlands have long been in favor of pursuing pirates on land so as to deny them their easy retreat.

But Germany, Spain and Austria were not willing to agree to a robust extension of the mandate, being afraid of casualties both among their own soldiers and among Somalia's civilian population.

The result is, as always in Brussels, a compromise: European soldiers may go in, but only by helicopter - no troops on the ground. They may target pirate boats, equipment and gasoline reserves along the shoreline and the internal waterways, but they cannot shoot at people. They are allowed to use machine guns, but no rockets.

Despite these restrictions, military experts think this new approach will hurt the pirates. But risks to civilians remain, they warn. "It could have a coercive effect: The navy is taking the fight into the pirates' own backyard," said Lee Willett, senior research fellow in maritime studies at the Royal United Services Institute in London. He added that using force ashore increases the risk of affecting innocent civilians.

The pirates, depending on where they are based, are embedded among the local population. Analysts say they have contributed a share of the ransom money to poor communities, but they have also brought prostitution, alcoholism and other problems.

Under threat from helicopters, the pirates could be tempted to use villagers as human shields for their boats. Or they could simply take their boats off the shore and transport them farther inland. And then what? How far would the European Union be prepared to give chase? What if the pirates paid civilians to guard the boats on the beaches? How far does the beach stretch, in military terms, anyway?

E.U. diplomats will give no details. "We cannot tell you because we do not want the pirates to know," one diplomat said, requesting anonymity because of the sensitivity of the issue. "Such details are secret."

But this is an answer that the skeptical German lawmakers will not accept. They have seen what has happened in Afghanistan, where many civilians have died in NATO bombings.

Deputies from Chancellor Angela Merkel's coalition have made it clear that they demand an answer to the question of the beach, either in terms of a clear definition in the E.U. operations plan or in the shape of a national reservation, or caveat, to stop German troops from going farther inland.

Ms. Merkel, recognizing how divisive this issue is, is playing for time. Analysts said she would prefer no debate at all about the width of the beach until mid-May, when crucial regional elections in North Rhine-Westphalia are over.

**Source: New York Times, Judy Dempsey**

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**Inséré le 03/09/12 News Nouvelles Enlevé le 03/10/12**

## **NEW DESIGN OF CONTAINER VESSEL ?**

Spotted at a exhibition, a model of a container vessel at the booth of a shipbuilder, but when looking carefully it appeared that the wheelhouse at the model is facing into the wrong direction , and facing to the stern.

I hope that it is a mistake of the model builder, because when the vessel is really built like the model it will be difficult for the navigation officer to look forward



**Inséré le 03/09/12 News Nouvelles Enlevé le 03/10/12**

## **Alfa Laval launches bilge data recorder**

Alfa Laval's PureBilge has been tested and certificated by DNV at below 5 ppm when the legal requirement is 15 ppm. It is now included in DNV's 'Clean Design' class notation.

The increasing number of cases where severe penalties –both financial and custodial - have been imposed for discharging bilge water with an unacceptably high oil content into the ocean, and falsification of oil record books, is a growing source of concern.

The recent, well-publicised activities of 'whistleblowers' and the resulting prosecutions clearly indicate the need for extreme caution when it comes to the entire process of bilge water management.



**Enter the blue box.**

In response, Alfa Laval has launched the BlueBox bilge data recorder, which is claimed to be a tamper-proof solution designed to prevent irregularities from occurring in the future.

It was tested on several tankers, including an OSG newbuilding at SPP Sacheon shipyard in South Korea before being released in the market and is now being rolled out.

The reasons for its release are clear. As

early as 2008, corporate criminal fines imposed involving oily water separators and environmental infractions had already reached \$145 mill, with the individuals involved sentenced to a total of 18 years' imprisonment.

The situation has now become so critical that the shipping industry has published a pamphlet entitled "Shipping industry guidance on the use of oily water separators".

Issued jointly by BIMCO, Intercargo, ICS, ISF, Intertanko and OCIMF, this publication expresses the global shipping industry's refusal to accept any non-compliance with MARPOL.

Government agencies and other authorities now employ both aerial and satellite ocean surveillance to detect violations, while Port State Controls authorise national coast guards to board and inspect all vessels in ports worldwide.

Thus, even minor, accidental infringements stand a good chance of being detected and can result in shipowners being forced to pay huge fines. While deliberate violations of MARPOL requirements and falsified records can render the perpetrators liable to criminal prosecution and imprisonment.

### **Treatment technologies**

For bilge water treatment, the shipping industry pamphlet suggests that shipping companies should consider "installing the latest equipment, or an upgrade in capability, if existing equipment does not perform to requirements".



Various technologies exist for reducing the oil content in bilge water to 15 ppm. There are, for instance, static systems, such as gravitational coalescence, chemical treatment, adsorption filtration, and membrane filtration.

However, these 'batch' methods process large volumes for a short period of time and often fail to perform efficiently, since a ship's motion in rough sea adversely affects the treatment process, Alfa Laval said.

By far the most efficient technology for bilge water cleaning are dynamic systems utilising high speed centrifugal separation technology, and here Alfa Laval claimed that its PureBilge system is a success.

PureBilge provides a cleaning performance of 0-5 ppm oil content in the water, it is unaffected by sea heave, oil shocks or high solids loading and no backflushing is required. The company said that PureBilge is the only bilge water treatment system available on the market with a DNV test report stating 5 ppm at 5,000 litres per hour throughput has been reached when tested according to MEPC107(49) rules.

Alfa Laval said that shipowners are increasingly choosing to invest in this technology rather than risk prosecution. The company has more than 1,000 systems installed on board vessels to date.

However, it is not enough that the system works. The shipping company must be able to prove that it works. The industry pamphlet suggests that shipping companies should consider "using tamper resistant recording systems, alarms and printouts to verify equipment operation, valve position, flow, OWS ppm, incineration, ship's position, etc."

In line with this thinking, in collaboration with leading shipping industry players, including tanker operators, Alfa Laval has developed the BlueBox bilge data recorder and incorporated it into the PureBilge system. It is a fully automatic, tamper-proof bilge data recorder with visuALog software and a digital ORB.

The data recorder not only records oil ppm level but also GPS position, separator operation, full alarm log, overboard valve position and overboard flow data.

The system's electromagnetic overboard flow meter records both current and total flow. This system is claimed by the manufacturer to be highly accurate. To protect against operator error or tampering, a proximity switch registers the actual position of the overboard valve.

## **Alarmed**

If the flow meter is registering a flow when the overboard valve is in the recirculation position, the software will give an alarm and the system will shut down. The flow meter contains no moving parts and is calibrated for life.

The flow data recorded includes the time the overboard discharge starts, the oil content meter level over a discharge cycle, total quantity of water pumped overboard in a discharge cycle and the time the overboard pumping stops.

The information is stored in an encrypted format for a minimum of 18 months and can be downloaded to a USB memory.

As the pamphlet states: "It is important that every effort is made to ensure that seafarers do not engage in any illegal conduct in the mistaken belief that it will benefit their employer." It advises shipping companies "...to install locked boxes or cages over monitoring equipment".

With the robust construction of a safe, Alfa Laval claimed that the data recorder is designed to prevent tampering. The complete bilge water sampling line is fully encapsulated and the unit can only be opened by authorised personnel.

The unit is equipped with a coded magnetic limit switch. The insertion of, for example a screwdriver, or any other implement between the cover and the main unit, in an attempt to force it open, will generate an alarm and cause the overboard valve to go into recirculation.

If the shipping company is required to prove its innocence, the visuALog, utilising user-friendly software, speaks for itself. The bilge record book can be viewed and exact geographical positions and overboard flow data analysed.

Alfa Laval pointed out that PureBilge with the data recorder requires much less operator involvement than other systems. It not only reduces man-hours, but also minimises risk of operator, as well as ORB errors.

Unlike stand-alone units from other manufacturers, which must be purchased separately from the bilge water separator, BlueBox is fully integrated into the PureBilge module.

Alfa Laval also claimed that its BlueBox data recorder is being specified and installed on a growing number of tanker newbuilding projects, as the tanker market was one of the prime drivers in its development, the company explained.

It is being offered as a type approved standard option with PureBilge and can be purchased as a complete bilge water treatment package. The cost of the data recorder is priced at around €4,000 on top of the €85,000- €95,000 for the PureBilge system. TO

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**Inséré le 05/09/12 OPEN FORUM Enlevé le 05/10/12**

## **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 skips 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 ail 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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