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Getting the most from GMDSS

The carriage of GMDSS equipment is a mandatory requirement on most seagoing vessels – choosing up to date and integrated technologies can help to keep the system running smoothly while reducing the total cost of ownership, writes Henrik Dyrholm, Cobham SATCOM

The Global Maritime Distress and Safety System (GMDSS) concept was established in the late seventies, when IMO began work on defining a maritime safety standard, incorporating new technology, and establishing a worldwide safety network.

A new standardised system was needed to replace the informal safety and alerting systems in place at the time, which were based on Morse Code and radio; the type of technology relied on for safety communication since the 1920s.

Tested during the eighties, GMDSS was finally ratified, and became an amendment to the SOLAS charter in 1988, but has only been mandatory since 1999 for vessels subject to the SOLAS Convention, that is, commercial vessels of 300 Gross Registered Tons (GRT) and above, engaged in international voyages.

So GMDSS has only been mandated for the core maritime transport market for 14 years. Not a long time, considering how ubiquitous the system is today.

Whilst there are certainly vessel owners to whom GMDSS is a regulation simply to be met, a keen sector of the market has embraced the system and taken on board one of the original aims of the initiative; that the technology required to become compliant under GMDSS also becomes an operational tool for more efficient operations.

This approach ensures that any investment made in communications technology for GMDSS compliance can provide operational returns.

A tangible monetary return can be difficult to measure, however if a vessel's GMDSS console can enhance operational communication, thereby supporting crews to do their jobs better or shore teams to manage logistics more efficiently, then resources spent on GMDSS compliance can be viewed as an investment. GMDSS defines the mandatory demands for vessel communication and alerting, and therefore the level of investment in equipment required, based on the Sea Area that a vessel operates in.

- Sea Area A1: An area where the ship can contact a Coastal Station by VHF radio and be able to send a Distress call by VHF/DSC. VHF range is maximum 60 km (25W) and Line of Sight is required.
- Sea Area A2: An area covered by an MF coastal station with the option of making a DSC Distress call by MF radio, which has an approx. 400 km range and follows the curvature of the earth.
- Area A3: An area covered by satellite operator Inmarsat with the option of alerting using the Inmarsat C network.
- Sea Area A4: An area outside A1, A2 and A3. Outside of Inmarsat coverage (North and South of 70 degrees) so MF/HF communication remains the primary GMDSS carrier.

Future operations

A GMDSS console can contain a range of Inmarsat C, MF/HF and VHF radio products.

In recent years, with the trend of streamlining bridge systems, driven by the development of new navigation systems methodology, the traditional role of the radio officer has all but vanished. A key reason for this has been the introduction of 'watch' functionality within communication systems, so that the need for a dedicated person to monitor the airwaves for emergency communication has disappeared.



Streamlined, even one man bridge operation is especially relevant to the offshore sector, where vessels are in a stand-by position between operations so reducing crew count can introduce considerable cost savings.

With a single officer manning the bridge, critical systems all

have to be accessible via far fewer interfaces than is common on a bridge of today. Which means information exchange and seamless integration between disparate systems is of paramount importance for the smooth and safe operation of the vessel.

For the GMDSS aspect of a bridge, communications equipment manufacturers have focused on custom protocols based on Lightweight Ethernet and other networking standards, which enable efficient integration and communication between products.

As it stands, we are not yet at the position where a single access point for operation of all systems in an entire GMDSS solution is available.

The technology is there, but equipment manufacturers will need to negotiate extensive legislation and testing before we see a truly homologated GMDSS console – where all systems can be operated from a single point on board ships or OSVs.

The focus on networking elements has borne considerable fruits in the area of installation, servicing and troubleshooting though. Considering that upkeep of GMDSS can cost as much as the equipment itself, providing cost efficiencies here is becoming very attractive to owners.

The cost of maintaining GMDSS equipment pales in comparison to the potential fines, or impact of loss of vessel and life due to faulty equipment. So as a whole, the industry will ensure surveys, regular and ad-hoc maintenance and replacement of faulty equipment are all priorities as part of their vessel safety programmes. But lower costs and more convenience for equipment service is an important differentiator for equipment manufacturers.

A key benefit of the fully networked GMDSS console is that service personnel can access the entire system from a single point. This alone can save significant amounts of time when, for instance, upgrading software.

For example, a touch screen interface can be used to show the status of all components in the GMDSS network, from the radios to the mini-C. This approach will streamline the engineer's job as he doesn't need to connect to and access every single piece of equipment, which again reduces the amount of time needed per job.

The benefits of networking also extend to the power supply and charger used on the majority of installations.

Operational status can be monitored from the message terminal and values altered if need be. The message terminal effectively can also operate as a GMDSS battery panel (a required GMDSS component) if necessary, eliminating a panel on the console, making it more manageable and streamlined - again, producing servicing cost savings.

This approach to GMDSS network maintenance has recently been extended, with maritime service companies now offering remote connection to GMDSS equipment on board from shore based service

centres across the world, with the goal of reducing equipment life-cycle costs and maximizing uptime.

This allows the technology providers to conduct regular health checks on the GMDSS systems from shore, paving the way for preventative maintenance whilst further reducing the time and cost of visiting a vessel for manual servicing.

The set-up enables GMDSS products to be prepared for annual servicing from shore, reducing the time needed on board by up to 75 per cent. This is certainly in line with the lower costs and convenience that on board networking is already delivering.

Launch-pad

At the time of its conception, the idea behind GMDSS was to bring together technology to enhance safety at sea in a single system.

We are only now starting to understand the potential of truly networked bridge and communication systems, but we will have to wait before legislation and the market allows all communications systems to be operated from a single point.

The advances in installation and maintenance that networking has introduced is certainly a good launch-pad for further development in this field.

Today, owners can enjoy simpler logistics and lower costs for maintenance of their GMDSS equipment. Technology companies and product manufacturers will continue to push the potential of networking within GMDSS and communications systems as long as owners understand that GMDSS, though mandated, is actually a hugely positive development for operations, as well as safety.

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Le porte-avions en glace "Habbakuk" (Partie 2)

par Jacques Deleuille

La réalisation en vraie grandeur

A Jasper, Niven entra en conflit avec le département fédéral de la main-d'oeuvre, les ouvriers travaillant à Patricia Lake étant réclamés pour des travaux de ferme. Une rafale de messages de colère s'envola de Jasper vers Ottawa la capitale fédérale.

Pyke mis au courant de la situation à Jasper s'inquiéta de "l'interférence stupide" de la bureaucratie avec le projet Habbakuk et insista pour que le Premier Ministre canadien Mackenzie King soit tenu informé. Peu après au grand étonnement de ceux qui travaillaient au projet, les ouvriers furent rendus à Niven. Toujours aussi têtu Pyke avait tellement tempêté à Ottawa qu'il avait obtenu gain de cause. Tout rentra dans l'ordre, le projet Habbakuk prenait corps lorsqu'un violent échange de points de vue opposés entre Bernal et Cook causa presque la mutinerie de ce dernier. Cook avait informé Bernal que les icebergs n'avaient qu'un huitième de leur masse émergeant de l'eau, le pykrete se révélant être plus lourd, le porte-avions prévu devait normalement s'enfoncer sous la surface de la mer! Comment Bernal pouvait-il résoudre ce problème? "C'est aisé, répondit celui-ci sans se départir de son calme: il n'y a qu'à insuffler des bulles d'air dans le pykrete pour augmenter sa flottabilité. Comment ? demanda Cook. Oh, ne vous en faites, vieux frère, nous trouverons bien le moyen le moment venu". Cook pensait que l'ensemble du projet Habbakuk était un non-sens. Des rapports en provenance de Lake Louise laissèrent à penser que Cook avait peut-être raison. Des poutres de 12,192 m de pykrete expérimentées à la station d'essai n'avaient supporté que la moitié de la contrainte indiquée par Mark. Seul Pyke et Bernal ne s'inquiétaient pas. Ils quittèrent Ottawa pour Londres satisfaits des progrès obtenus à ce jour et en mai 1943 deux événements vinrent

conforter leur optimisme. A Lake Patricia la maquette du porte-avions réalisée sous la supervision de Niven était terminée et flottait, et les chercheurs de la station d'essais de Lake Louise avaient restauré la confiance dans le pykrete en découvrant que la pulpe de sapin donnait une résistance supérieure à la pulpe de pin. Le projet Habbakuk était fermement soutenu par Winston Churchill dans une lettre adressée au premier ministre Mackenzie King lui demandant de son côté son appui le plus complet. En réponse à sa lettre Mackenzie King assurait Winston Churchill que le Canada tout entier apporterait son aide sans réserve.

Du projet Habbakuk il fallait maintenant passer à la réalisation en vraie grandeur. La construction d'un porte-avions en glace posait des problèmes techniques de mise en oeuvre. Le Docteur Mackenzie, directeur canadien du projet demanda à la Montreal Engineering Company d'établir les plans définitifs du porte-avions. L'amirauté britannique de son côté qui était restée très sceptique depuis le début vis-à-vis du projet, spécifia que le porte-avions devait être en mesure de supporter des vagues de 30,48 m de haut pour 304,8 m de long, le pont d'envol devrait demeurer à 15,24 m au-dessus de la mer et avoir au moins 610 m de long pour permettre de recevoir des bombardiers. Ces spécifications étaient le double de celles d'abord envisagées. La Montreal Engineering Company fournit les plans d'un porte-avions de 610 m de long, de 91,44 m de large, de 60,96 m de haut, d'un tirant d'eau de 46,94 m déplaçant deux millions de tonnes, équipé de hangars, d'ateliers, de dépôts à carburant, de DCA, de logements pour un équipage de plus de 2.000 hommes. Le porte-avions serait propulsé par 26 moteurs d'avion capables de lui imprimer une vitesse de 7 noeuds. Hormis le pont d'envol, la coque serait enchâssée dans un revêtement isolant. D'autres couches de revêtement isolants parcourraient la coque de pykrete comme des veines. Si le revêtement externe venait à être déchiré par une torpille, le dommage passerait à peu près inaperçu, le pykrete mettrait des mois à fondre et une réparation était possible. L'état-major des Opérations Combinées à Londres donna son accord final aux plans soumis et demanda au gouvernement canadien de commencer les travaux du premier porte-avions en glace pour un prix estimé en Grande-Bretagne à 70 millions de \$ soit la moitié du prix d'un porte-avions conventionnel de même taille.

Corner Brook à Terre Neuve, où la température en hiver est basse et les eaux protégées avec une profondeur suffisante fut choisi comme site de construction. Mackenzie était effrayé à l'idée de mobiliser une grande partie de l'effort de guerre canadien pour Habbakuk. Il fallait former des ouvriers pour travailler sur un nouveau matériau, des usines auraient à fournir de nouveaux outils, de grandes quantités d'acier seraient utilisées pour réaliser les bâtis de renfort en treillis disposés en couches et assurant la stabilité du pykrete. Le site de Corner Brook ne devrait pas avoir moins de 40 hectares, la mise en oeuvre de l'isolation et la fabrication des tubes de réfrigération absorberaient la production annuelle de l'Amérique du nord toute entière.

Fin juin 1943 Mackenzie s'envola pour Londres pour assister à une série de conférences d'experts en construction navale de l'Amirauté et de scientifiques dont la plupart n'aimaient pas Pyke. Une réunion se tint à Canada House à laquelle furent conviés outre ces experts de l'Amirauté, des scientifiques britanniques travaillant au projet Habbakuk et le vice-amiral Louis Mountbatten. Mackenzie exposa l'immensité du projet et les contraintes économiques qu'il imposait à l'économie canadienne. Un officier de haut rang approuva et dit que c'était les premières paroles de bon sens qu'il entendait depuis le début des études du projet Habbakuk. Mountbatten sortit de la réunion. Il est vrai qu'à la mi-1943 l'évolution de la guerre sur mer était favorable aux Alliés et amenait à réexaminer Habbakuk. L'escorte des convois équipés de nouveaux moyens anti-sous-marins, commençait à décimer en nombre croissant les sous-marins allemands, les bombardiers à long rayon d'action "Liberator" étaient livrés en plus grand nombre et utilisés tant du côté américain que du côté britannique, ils permettaient une couverture

L'auteur a refait les plans à l'échelle du porte-avions projeté d'après les seuls documents chiffrés et cotés connus parus dans le journal London Illustrated News du 2 mars 1946, pages 234-237. Les fonctions du projet Habbakuk auraient été multiples:

- 1 - Assurer la couverture aérienne du "trou noir" de l'Atlantique en particulier par des patrouilles de "Wellington" de reconnaissance, l'attaque des sous-marins allemands par des bombardiers

"Mosquito" (ces deux appareils ne nécessitant pas de système de repliage des ailes étant donné la grande dimension des hangars), la protection aérienne du porte-avions et de son escorte par des "Seafire" aux ailes repliables.

2 - Assurer l'entretien d'appareils en provenance d'autres porte-avions britanniques de haute mer, leur ravitaillement en combustible pour augmenter leur capacité d'actions aéronavales prolongées en assurant une base arrière de repli.

3 - Assurer le stockage et le ravitaillement d'appareils en transit construits aux Etats-Unis et au Canada ralliant la Grande-Bretagne par leurs propres moyens et dont l'autonomie aurait été trop courte pour franchir d'une seule traite l'Atlantique.

La construction du porte-avions conçue par la Montreal Engineering Company était prévue comme pour la maquette de Patricia Lake: sur un radeau de bois un revêtement d'isolation de 0,76 m était mis en place, puis on alignait des cubes de pykrete de 3,04 m ou 6,09 m de côté tandis que des canalisations de réfrigération étaient noyées à intervalle régulier dans la masse de pykrete au fur et à mesure que le fond et les côtés du porte-avions également isolés par un revêtement d'isolation de 0,76 m s'élevaient à leur tour. L'épaisseur de la coque en pykrete était de 12,19 m largement suffisante pour encaisser sans dommage torpilles, mines ou bombes explosant à proximité (voir coupe). La partie centrale du porte-avions, également en pykrete par une couche d'isolation de 0,76 m, renfermait en partant du bas: des soutes à combustible de 3,04 m de haut, capacité 5.000 tonnes de fuel plus l'essence d'aviation, un hangar inférieur de 15,27 m suivi d'un hangar supérieur de même hauteur. Au centre du navire des compartiments de la hauteur du hangar inférieur renfermaient les machines de réfrigération et les compartiments machines, au-dessus, sur la hauteur supérieure s'élevaient trois ponts continus abritant ateliers, postes d'équipage ou carrés des officiers ainsi que les cuisines, sanitaires, etc. ; une poutre en treillis de 5,18 m enfin, supportait la couche d'isolation supérieure et les 12,19 m de pykrete qui achevait la coque jusqu'au pont d'envol. Des essais effectués au bassin du National Physical Laboratory de Teddington démontrèrent que la maquette du super porte-avions en glace franchissait avec aisance des vagues de 305 m de long et de 15 m de creux selon les spécifications de l'Amirauté britannique.

Pour la propulsion de l'énorme porte-avions on reprit l'idée du dirigeable dont les moteurs sont contenus dans des nacelles placées à l'extérieur de l'enveloppe rigide. On opta pour 26 nacelles de propulsion, 13 de chaque bord. Nous avons dit que les plans de la Montreal Engineering Company prévoyaient des moteurs d'aviation équipant chaque nacelle dotée d'un tube porte-hélice et d'une hélice d'un diamètre de 3,96 m; ceci paraît peu vraisemblable. On a parlé de moteurs diesel, ils auraient été trop lourds et trop encombrants. La coupe parue dans le London Illustrated News semble correcte. La propulsion du porte-avions était turbo-électrique. 4 turbines à vapeur d'une puissance totale de 260.000 ch alimentées par 8 chaudières étaient couplées comme dans une usine à terre à 4 alternateurs reliés par câble à 26 moteurs électriques de 10.000 ch chacun installés dans chaque nacelle. Un couloir de circulation les reliaient au centre du navire à travers la couche de pykrete. Un puits de visite vertical les reliaient également au pont d'envol. Pour le projet Habbakuk une vitesse de 7 noeuds était envisagée et un rayon d'action de 7.000 miles nautiques.

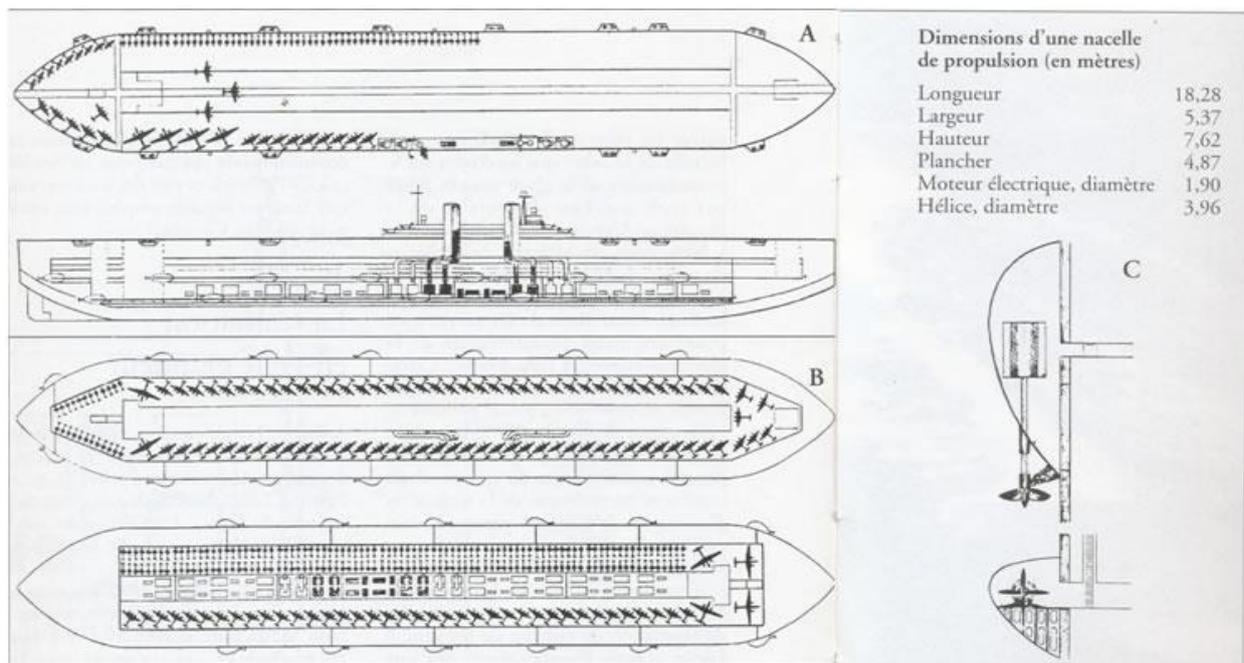
En plan, le porte-avions montre au niveau du pont d'envol (dessin A) une partie rectiligne de 457 m prolongée à l'avant et à l'arrière par une partie arrondie de 76 m. On distingue: l'ascenseur principal en forme de T pouvant enlever un "Wellington" (poids total équipé 13,4 t) ou 2 "Mosquito" (poids total équipés 17,4 t) ou 12 "Seafire" (poids total équipés 38,4 t), l'ascenseur arrière pour "Seafire" et l'ascenseur avant pour "Mosquito". Un îlot à tribord comporte les passerelles nécessaires au mouvement d'aviation, les postes de commandement navigation et aviation, les radars, deux cheminées, un tripode avant doté de vergues à signaux et surmonté d'un Tacan, un mât à pible arrière. Le long de l'îlot sont répartis des radeaux de sauvetage accrochés verticalement et des baleinières logées dans des niches. L'îlot supporte également quatre affûts octuples de 40 mm anti-aériens. La défense antiaérienne est renforcée par 28 affûts doubles également de 40 mm répartis deux par deux dans des encorbellements. Il existe 6 postes de télémétrie radar répartis trois par bord. L'auteur a représenté sur le pont d'envol: trois "Mosquito" au décollage, à bâbord 56 "Seafire"

ailes repliées (cette même place aurait permis le stationnement de 24 "Mosquito", à tribord 9 "Mosquito" et 4 "Wellington" (ces derniers auraient permis le stationnement à leur place de 8 "Mosquito" supplémentaires). En bout de piste stationnent à bâbord 9 "Seafire" ailes dépliées, à tribord 6 "Mosquito".

Au niveau du hangar supérieur (dessin B) on trouve 7 nacelles de propulsion externes de chaque bord. Les deux extrêmes servent à faciliter l'évolution de la masse de 2 millions de tonnes du porte-avions. Chaque nacelle est reliée aux hangars bâbord ou tribord par un couloir de circulation. La partie rectiligne des hangars bâbord et tribord abrite chacune une "Wellington" de reconnaissance et 38 "Mosquito". On a figuré sur le hangar tribord les conduits d'évacuation du fumée émergeant des ponts inférieurs. Ces conduits sont inclus dans la poutre de renfort en treillis soutenant la couche supérieure de pykrete. A l'arrière un hangar trapézoïdal abrite 24 "Seafire" ailes repliées de protection du porte-avions proprement dit en alerte renforcée et leur ascenseur assez étroit. A l'avant un hangar trapézoïdal abrite 6 "Mosquito" dont deux à bâbord sont représentés en voie d'acheminement vers l'ascenseur avant et un en cours d'approvisionnement en bombes et en combustible.

Au niveau du hangar inférieur (dessin C) on distingue 6 nacelles de propulsion externes de chaque bord et leur couloirs de circulation. Les deux nacelles arrières concourent surtout aux évolutions du porte-avions. Le hangar bâbord abrite un "Wellington" et 38 "Mosquito", le hangar tribord un "Wellington" et 176 "Seafire" ailes repliées. Deux hangars additionnels arrière peuvent abriter 2 "Wellington" ou 24 "Seafire" ailes repliées. La dotation normale en avions était au total de: 6 "Wellington", 120 "Mosquito" et 200 "Seafire".

Au centre du navire on distingue les diverses tranches techniques en particulier : représentées en noir, les 8 chaudières réparties en deux compartiments étanches encadrant les quatre turboalternateurs qui alimentent en électricité les centrales de réfrigération réparties à l'avant et à l'arrière. Sur la coupe du porte-avions figurent les différents éléments déjà décrits. On distingue également de haut en bas: la zone de poutrelles en treillis abritant au centre les conduits d'évacuation de fumée superposés, puis deux ponts abritant le personnel aviation et l'équipage, un pont situé au niveau du hangar supérieur abritant les ateliers aéronautiques, un pont abritant les auxiliaires, viennent ensuite les immenses compartiments machines avec leur bâtis-supports occupant la valeur d'un pont enfin, représentée en grisé une zone sous le hangar inférieur abritant des ballasts à combustible (fuel, essence) et à eau. On notera à l'arrière les dimensions considérables du gouvernail compensé.



Winston Churchill toujours le plus chaud avocat du projet Habbakuk décida que le porte-avions en glace pourrait être encore construit si un autre Allié couvrait les frais de sa réalisation; pourquoi pas les Etats-Unis ? S'il arrivait à convaincre Roosevelt et les chefs d'état-major américains que le projet Habbakuk pouvait écourter la guerre du Pacifique, rien alors n'empêcherait le porte-avions en glace de grandir peu à peu dans les eaux abritées de Corner Brook. La conférence de l'horloge devait se tenir à Québec en août 1943, on demanda à Mountbatten d'apporter avec lui des échantillons de pykrete à l'hôtel Château Frontenac qui devait accueillir les participants. La conférence tournait à l'aigre. L'atmosphère se détendit lorsqu'on fit sortir de la salle de conférence les secrétaires et adjoints des officiers supérieurs lesquels commencèrent à discuter plus librement. Les seuls témoins des discussions restèrent deux blocs, l'un de glace, l'autre de pykrete, amenés sur place comme échantillons et posés sur le plancher. Winston Churchill invita le plus robuste des officiers américains présents, le général H. Arnold, à prendre une hache et à réduire en miettes les deux échantillons. Le général frappa de toutes ses forces sur le bloc de glace et le fit voler en éclats de petite taille. Il s'attaqua de même au bloc de pykrete. La hache rebondit et le général hurla sous le choc. Mountbatten clôtura la démonstration en tirant sur le pykrete avec son pistolet. La balle heurta un angle, ricocha autour de la pièce manquant de peu l'amiral E. King de l'US Navy et l'Air Chief Marshall Sir Charles Portal du Bomber Command britannique.

La fin du projet "Habbakuk"

Le lendemain matin, le président Roosevelt donna l'ordre à l'US Navy de participer à la construction du porte-avions mis en chantier à Corner Brook, déchargeant Mackenzie et le National Research Council canadien de la responsabilité de sa réalisation. Mountbatten nomma alors Pyke représentant des Opérations Combinées britanniques à Corner Brook. Lorsque les chefs de l'US Navy apprirent la décision, ils explosèrent. Se souvenant des bouffonneries de Pyke, ils avertirent Mackenzie qu'il serait impossible de donner la priorité aux anciens collègues de Pyke à Washington aussi longtemps que ce dernier aurait à s'occuper de Habbakuk. Mackenzie écrivit à Mountbatten: "la présence de Pyke comme Directeur de l'opération Habbakuk aura un effet désastreux sur la participation américaine. J'ai été obligé d'informer le gouvernement canadien de la position américaine et j'ai reçu pour instruction de ne pas envoyer Pyke à Corner Brook".

Le rêve de Pyke s'écroulait. Non seulement on lui interdisait de voir son rêve devenir une réalité, mais il était privé du soutien de Mountbatten qui quittait la tête des Opérations Combinées pour devenir commandant en chef en Asie du Sud-Est. Le projet Habbakuk passé sous contrôle américain demeura en suspens jusqu'au 16 décembre 1943 date à laquelle le gouvernement américain informa les Alliés que le porte-avions en glace devant être utilisé pour la guerre contre le Japon, sa construction devait s'effectuer sur la côte du Pacifique des Etats-Unis. Sa réalisation entraînerait de tels efforts qu'elle interférerait avec des plans ayant une plus grande priorité et par conséquent que le projet devait être abandonné. Washington s'était vengé de Pyke. Les raisons de cet abandon étaient non seulement économiques mais encore stratégiques. La marine américaine développait dans le Pacifique une technique de reconquête par saut d'îles en îles offrant des aérodromes qui éliminaient le besoin d'un porte-avions tel que celui du projet Habbakuk. Pyke ne devait jamais plus conseiller les grands de ce monde. Il termina la guerre la tête pleine d'idées mais fut incapable de persuader quiconque de leur valeur. Par une nuit humide de l'hiver londonien il mit fin à ses jours en février 1948 en avalant le contenu d'une bouteille de somnifère et mourut dans sa chambre-salon au style suranné. Le pykrete survécut. En 1957, les North Rankin Nickel Mines opérant sur la côte Ouest de la baie de l'Hudson utilisèrent des poteaux de mine et une jetée réalisés en pykrete. Il existe à Ottawa un dossier très secret renfermant les performances du système de réfrigération utilisé pour la réalisation de la maquette navigante réalisée sur le Patricia Lake près de Jasper en juillet et août 1943. La marine canadienne demanda à l'amirauté britannique en 1957 si le rapport pouvait être rendu public : la réponse fut négative. Pour des raisons inconnues l'amirauté britannique insista pour que les détails du projet Habbakuk restent secrets. Plus mystifié que tous fut le Docteur Niven, auteur du rapport détaillé, sur la maquette navigante réalisée à Patricia Lake, le premier homme ayant jamais construit un navire en glace qui ne fondait pas .

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LNG bunkering at Port of Antwerp

The **Port of Antwerp** plans to set up an LNG bunkering station for barges, which should be available by the beginning of 2016. Truck-to-ship bunkering has already been possible in the port of Antwerp since 2012: a truck collects LNG at the LNG import terminal in Zeebrugge and takes it to Antwerp. The truck then parks on the quay from where the LNG can be delivered to the barge. The **Antwerp Port Authority** hopes that by building a permanent LNG bunkering station it will break out of the chicken-and-egg situation: by making LNG permanently available it is hoped that the barge industry will be more willing to make the necessary investments for switching to this more environment-friendly fuel.

Call for tenders

The **Antwerp Port Authority** has therefore issued a European call for tenders in order to find a partner to design and build an LNG bunkering station. It must also be possible for trucks to fill up with LNG at the station. In the meantime, the Port Authority is also allowing for the possibility that a private company may take the necessary initiatives to permit LNG bunkering at a permanent station.

LNG Master Plan

Construction of the bunkering station will partly be subsidised by the LNG Master Plan for the Rhine-Main-Danube, a project that forms part of the European Commission's TEN-T programme. The aim of this Master Plan is to promote the use of LNG as a fuel and its carriage as a cargo by European barges. In order to ensure continuity and achieve the Basel, Mannheim, Rotterdam and Strasbourg, for which a collaboration agreement was signed in April 2014 at the Central Commission for Rhine Transport in Strasbourg.

Port Police Regulations

The Antwerp Port Police Regulations were extended at the beginning of this year to cover LNG bunkering, thus providing a regulatory framework for truck-to-ship, ship-to-ship and terminal-to-ship bunkering with LNG in the port of Antwerp. The bunker checklists permit LNG bunkering to be carried out in a safe and efficient way.

Source : LNG Industry

Inséré le 04/08/14 BOOKS LIVRES Enlevé le 04/09/14

“Nele. Bouw van een replica van een Oostendse tweemastsloep”

BOEKBEPREKING door : Frank NEYTS

Recent verscheen een zeer bijzonder boek onder de alleszeggende titel ‘**Nele. Bouw van een Oostendse tweemastsloep**’. Het boek werd in eigen beheer uitgegeven door de auteur, **Georges Verleene**. Georges Verleene, geboren in 1949, komt uit een vissersfamilie, die haar roots vindt aan de Vlaamse Westkust. Grootvader en vader vinden we in de visserij terug. **Georges** probeert eerst nog enige afstand tot de visserij te houden en leert voor bouwkundig technicus. Afgestudeerd komt hij aan de slag bij de eertijds bekende architect Paul Felix. Later leert hij met enthousiasme de wereld van de houtbewerkers kennen. Al schavend en snijdend, kloppend en zwetend maakt hij zich het ambacht eigen. Dat leidt hem uiteindelijk tot in de werkhuizen van Alfons Lowyck, een bekend

Oostends sloopstimmerman en dus toch weer in de visserij. Bij de eeuwwisseling wordt **Georges** lange tijd uitbesteed aan de **Maritieme Site Oostende (MSO)**, een project rond de bouw van scheepsreplica. Het project richt zich, met overheidssteun, tot laaggeschoolde, kansarme langdurig werklozen. MSO steekt van wal met de bouw van een replica van een historische Oostendse tweemastsloep. Rond de jaren 1880 telde de Oostendse vissersvloot meer dan 180 vaartuigen van dit type.

Tijdens het project geeft Georges Verleene zijn kennis van de bouw van zo'n degelijk houten schip over aan de cursisten, kennis die in de nevel van de tijd verloren was gegaan. Het resultaat, de '**Nele**', een juweel van een schip, vaart intussen uit met met toeristen. Op de MSO-werf wordt de bouw van een iets grotere tweemastsloep opgestart, maar nooit afgewerkt. Inmiddels heeft de MSO zijn werkzaamheden gestaakt. De know how voor het bouwen van zo'n sloep dreigt voor een tweede keer verloren te gaan. Gelukkig heeft **Georges Verleene**, projectleider bij de bouw van de '**Nele**', zijn kennis nu te boek gesteld. Het werd een prachtig boek, waarin de bouw tot in de kleinste details wordt toegelicht. Bovendien is het boek prachtig geïllustreerd met talrijke foto's en technische (detail)tekeningen. Een absolute aanrader. Het boek kan enkel wordt gekocht bij de auteur. U betaalt er, zonder verzendingskosten, 28 euro voor. Voor bestellingen en leveringsafspraken neemt men contact op met auteur **Georges Verleene** op zijn e-mail adres georgesverleene@skynet.be

Inséré le 06/08/14 DOSSIER Enlevé le 06/09/14

AIS-based business optimisation tools to help tanker operators

Large shipping companies face a variety of challenges in a highly competitive environment*.

This is especially true in the petrochemical industry where there are many complex processes to execute, from contract/charter setup and management to voyage and traffic management, invoicing for freight, demurrage and pass-through services, and both corporate and regulatory business and tax reporting.

Likewise, marine terminals face growing pressure to improve efficiency, reduce costs and enhance visibility to every aspect of a similarly complex marine terminal environment.

While fleet operators and their customers, alike, have tried to adapt general-purpose planning software, or off-the-shelf fleet management solutions to their business process automation needs, many still execute these tasks manually with paper or spreadsheets.

Now, both organisations can work together to reduce costs and improve efficiency, safety and security by using systems that fully integrate Automatic Identification System (AIS)-based vessel tracking with analytical, reporting and process-improvement tools.

For fleet operators, this new category of purpose-built solution streamlines a wide variety of transportation management processes while simultaneously creating a strong competitive advantage. Not only do these systems provide a single, convenient operational dashboard with they can streamline and automate their day-to-day tasks, the tools can also be used collaboratively with companion dock management systems on the customer side to deliver the additional value of streamlining invoicing and regulatory reporting on both sides of the transaction.



Refineries and petrochemical plants can benefit from vessel scheduling.

Fleet operators who use legacy systems are vulnerable to redundant data entry and other user errors. These manual solutions also hinder productivity and eliminate the opportunity to track, analyse and optimise operational efficiency. Although general-purpose software and off-the-shelf fleet management solutions can streamline some processes, they don't generally address the unique workflow and many specialised tasks, assets and elements of a typical tanker

fleet, particularly marine operations associated with the petrochemical supply chain.

The latest fleet management systems meet these challenges by adding advanced AIS capabilities to existing satellite-based vessel-tracking systems that many fleet operators are already using to enhance visibility, reporting and alerting for vessel movements and activities. Adding an AIS vessel-tracking platform improves operational speed, productivity and efficiency in an environment where time is literally money and errors can quickly erase profit margins. AIS provides real-time visibility and reporting of the fleet near-shore, at a level of resolution not typically available from traditional satellite-based fleet management platforms.

Further, in cases where a fleet operator's customer is also using similar process-optimisation solutions on the terminal side, there are additional opportunities to collaborate on invoice preparation, delivery and validation, as well as business and tax reporting, significantly streamlining and improving the accuracy of what typically have been complex and time-consuming processes.

How it works

Fleet management systems automate and enhance charter, voyage and fleet management. The systems are used to create new contracts, define term and spot charters, and activate jobs that define all associated details and activities. They also automate daily traffic reporting and invoicing, including the creation and delivery of configurable invoices for freight, demurrage and pass-through services. This eliminates paper while significantly reducing errors and labour.

Once a customer charters a vessel, the contract and charter details are entered into the system, which ideally should have the flexibility to accommodate customer-specific contract provisions and billing terms, including demurrage, maintenance, delays, and billing of pass-through services. Next, a new voyage is created within the system. The voyage indicates the vessel, barges, and any relevant destinations, such as load ports and discharge ports.

For optimal efficiency, this information should be automatically available on each vessel after the voyage is created. This is possible by using a communications system that combines AIS, cellular and satellite communication with least cost routing (LCR) capabilities to ensure the lowest possible communications service costs.

Vessels receive voyage information as a new job through an activity logger installed in the wheelhouse of each vessel. Activity loggers can be flexible, touch-screen devices, or simply an application installed on an existing on-board PC. All activities associated with the voyage are then entered by bridge personnel, including logging of delays that will impact demurrage invoicing. The

crew can see all job details, which are also shared with the traffic department so that crew, dispatchers, schedulers, traffic managers and customers all have the same information and traffic personnel can actively manage fleet activities.

Finally, a fleet management system should also provide a suite of detailed post-voyage reporting to further streamline the business associated with fleet operations. Fleet managers can also use the system to automate daily traffic reporting to customers and provide both real-time visibility and historical reporting through AIS-augmented vessel-tracking information.

At the conclusion of each job, back-office personnel can use fleet management systems to prepare freight and demurrage invoices, plus invoices for pass-through services and any fees or taxes that are applicable to the job. The system provides vessel owners with the flexibility to configure their invoicing process so that it meets the specific requirements of their business. Additionally, all job details are stored within the fleet management system's data warehouse, so users can generate a wide variety of specific reports as required.

The system should support numerous industry-standard reports and enable users to review historical vessel movements for the fleet (and other AIS-enabled vessels) to assist in resolving commercial disputes, enhancing training, or supporting compliance activities.

Finally, fleet management systems also can be used to improve implementation of Tanker Management and Self Assessment (TMSA) guidelines. Published by OCIMF, these guidelines help vessel operators assess and improve safety management systems against key performance indicators (KPIs). Fleet management systems enable fleet operators to achieve important TMSA objectives, including high levels of data integration, a collaborative approach to managing voyages and the ability to seamlessly move information across departments.

One example of this type of solution is PortVision's Fleet Management System, which provides an end-to-end, web-based platform for running busy fleet operations, from onboard touchscreen activity logging on each vessel, to automated invoicing of freight, demurrage and pass-through invoicing. The system leverages the company's AIS-based reporting service both on desktop systems and the latest full-featured smartphones, including BlackBerry, iPhone and Android devices.

Customer collaboration

A valuable benefit of modern fleet management systems is their ability to integrate job activity reporting data directly into management systems used by fleet operators' customers to optimise terminal and refinery operations. These customers include petrochemical refiners and third-party midstream facilities.

Terminal operators are already using AIS-based business optimisation tools across a variety of applications. These systems help marine transportation managers improve chartering, scheduling, vetting, logistics, loss control and demurrage management. They also help operations managers streamline and enhance activities associated with front-line dock activities and dock management.

As an example, one of the world's largest refiners based in the US is using a dock management system to speed, simplify and improve the job of dock scheduling, managing dock and cargo transfer operations and analysing and validating demurrage claims. The system provides continuous visibility to all dock and vessel activities, and has enabled senior management to cut costs and labour requirements, optimise the supply chain and drive better business decisions. The demurrage process, alone, has been significantly reduced and the staff has been freed from its previous, error-prone demurrage book keeping process and can now focus on other, higher-value and more rewarding activities.

In another application example, one large, Houston-based fuel, lubricant and petrochemical refiner, transporter and marketer has used AIS-based terminal management tools to automatically notify construction staff anytime a vessel is transiting at high speed toward a dock that was under construction.

AIS-based tools can also be used in a forensic capacity, as well. A large refinery on the US Gulf Coast, for instance, used its terminal management system to identify and secure compensation from a

vessel that it believed had created a surge large enough to damage a loading arm on one of its docks, start a fire and put the dock out of service. All necessary forensic evidence was available with the AIS-based terminal management system to identify which vessel was responsible and calculate how fast it was traveling.

The refinery also was able to identify other impacted vessels and put a team on site within enough time to locate valuable witnesses. Based on a combination of the forensic AIS data and eyewitness accounts, the refinery was able to prepare a watertight case for a compensatory damage claim and settle the matter with the vessel operator.

There are even greater benefits to be realised when these tools are used collaboratively on both sides of the dock by fleet operators and terminal management. All of the world's major oil companies, as well as many chemical manufacturers, third-party tank storage facilities and public dock facilities, plus key marine logistics personnel from a number of the oil majors, have clearly indicated that they would give preference to marine transportation companies that provided integrated activity reporting of the 'Statement of Facts' and related vessel activity data that influences refinery and marine terminal operations.

This integration yields a number of benefits. First, it enables fleet operators and their customers to share traffic updates and other fleet management data in near-real time. Second, it streamlines invoice generation and approval. Since the system captures all activities associated with each voyage and automates the invoicing process based on contract terms, it is possible to significantly enhance the invoicing process at a job's conclusion. As a result, a demurrage process that might have taken weeks, or months, can now be completed in days, while eliminating errors and customer disputes. Third, this cross-system integration allows operators and customers to automatically share volumes and other key data that they must report to tax and regulatory agencies.

By working together on record-keeping associated with product transfers, fleet operators and their customers can reduce the discrepancies that are often triggered by regulatory agencies. These discrepancies often result in audits and significant additional labour to be incurred by both vessel operator and terminal personnel. Sharing key data associated with transfers also can significantly reduce the likelihood of future reporting discrepancies.

With today's business optimisation tools, fleet managers and marine transportation service operators can automate the many specialised tasks associated with service monitoring, reporting and invoicing. In addition to streamlining and enhancing complex fleet operations, these systems also provide the unique opportunity to roll up information from multiple processes into a complete picture that drives improvements across the entire business cycle, from analytics to invoicing.

When used collaboratively with dock management systems on the customer side, these fleet management systems further streamline and improve the accuracy of invoice preparation and validation plus a variety of regulatory business and compliance reporting functions. This can create higher-value customer relationships and a significant competitive advantage for fleet owners and operators, while driving increases in fleet utilisation and associated revenues.

TankerOperator

*This article was written by Dean Rosenberg CEO ofPortVision, whose web-based enterprise software and services are designed to help oil companies, marine terminal operators, fleet owners/operators and other maritime users improve business operations through instant, continuous visibility into vessel and terminal activities.

Inséré le 08/08/14 NIEUWS NOUVELLES Enlevé le 08/09/14

LNG carriers to undergo modification to transit Panama Canal

LNG carriers will need to be modified to transit the expanded Panama Canal requiring them to be taken out of service, a leading gas shipping group told Lloyd's List. "Most LNG carriers will need modifications to go through," said Society of International Gas Tanker and Terminal Operators (SIGTTO) general manager Andrew Clifton. Speaking from SIGTTO's London headquarters, Mr Clifton said some LNG carriers might need to be taken out of service to be modified. In the past, size restrictions have prevented LNG carriers transiting the Panama Canal. However, recent work to widen the Panama Canal has enabled LNG vessels to pass through for the first time. Mr Clifton said that modifications to the ships would include changes to pilot platforms and moorings. He explained that vessels will need to be moored before going through the canal's new locks. However, many LNG carriers do not have the required mooring lines, so owners would have to decide whether to change the moorings on a temporary or permanent basis. This is an expensive process. Details on the investments owners will need to make are being studied. SIGTTO has recently published a book that offers guidance to LNG carriers and other vessel types on transiting the widened Panama Canal, with co-operation from the Panama Canal Authority.

LNG carriers are a particular focus because the US is poised to start exporting LNG, and transiting the Panama Canal will cut voyage times for vessels shipping cargoes out of the US Gulf. "The obvious passage is shale [gas] exports to Asia," Mr Clifton said. "But this won't change the market overnight – it's another option for LNG vessels." He compared the new US-Asia gas carrier route with the opening of the northern sea route in summer, which enables more ships to carry cargoes from Europe to Asia in a shorter time. However, only six ships a day will be able to enter the locks of the Panama Canal in each direction, a factor that will restrict LNG ship traffic. LNG ships will compete for transit through the canal against other vessel types, including dry bulk carriers and containerships. "The scheduling and prioritisation issue will be a challenge at times," said Mr Clifton. "It remains to be seen how many of these six ships will be LNG vessels." He was unable to go into detail on tolls, as SIGTTO offers technical, rather than commercial, advice. However, he did say that transit fees would be based on the volume of gas carried, rather than the gross tonnage of a vessel. Smaller LPG vessels can now transit the canal but the widened canal will allow very large gas carriers for the first time as well as LNG carriers. Issues regarding moorings and modifications would apply to these VLGCs as well, Mr Clifton said. The expansion of the Panama Canal, one of the world's major engineering projects, saw costs overrun by US\$ 1.6 billion causing delays to work. In late February, the parties involved in the expansion said the lock construction will be completed by December 2015.

Source : LNG Industry

Inséré le 10/08/14 NIEUWS NOUVELLES Enlevé le 10/09/14

Concerns arise over Sewol 'benefits'

Criticism has mounted over the National Assembly's decision to offer special consideration to college-bound students at Danwon High School who had to endure the loss of hundreds of their peers in the April 16 **Sewol** ferry disaster when they apply to universities this year. Lawmakers on the assembly's education committee on Tuesday passed a bill that would allow local universities to accept 12th-graders from Danwon High School through an exclusive admission system that would give special consideration to them.

Most the 294 passengers who died on the ship were their 11th-grade schoolmates, who were on a class trip to Jeju Island when the vessel began to violently list and then capsized. The new law would also let local universities set a quota for such students - within 1 percent of their regular freshmen quotas. The assemblymen assumed that the applicants eligible for the special admission would include the approximately 500 12th-graders at the high school - who will take the nation's College Scholastic Ability Test (CSAT) this November - including those who are related to deceased. The law was intended to take into consideration the trauma and stress that the 12th-grade students suffered in the wake of the ferry disaster in April, just a few months before the nation's most anticipated college entrance exam. According to the government, of the 325 students onboard the **Sewol** ferry the day of the accident, only 75 survived. Two of the 11 teachers accompanying them also survived.

Although the bill is approved by the committee, it still must be passed at a plenary session by lawmakers. It is currently pending in the assembly. But some critics have argued that the bill offers too much compensation and is unfair to other students.

Ha Tae-keung, a ruling Saenuri Party lawmaker, said in a statement yesterday that the bill gives "excessive benefits" to the 12th-grade students. He added that even if the benefits were given, the 11th-graders should be on the receiving end, not the 12th-graders. "It is an inappropriate decision to offer special admission benefits to the [12th-graders], not the [11th-graders], who were the victims of the sinking," he said. "In Korea, a country with such tough competition over the CSAT, it would only create new conflicts and make others feel discriminated against if we extend the benefits to the [12th-graders]." The families of the victims have not released an official statement on the issue yet. Some students who survived the accident said what they really want was to figure out the "truth" surrounding the cause of the accident, and that they were not concerned with receiving college benefits. According to letters from the surviving students to the National Assembly, which the families released to media, one student said, "What we want is to investigate the truth, not special admission!" Another student added, "We are doing this not for special admission, but to console the souls of our dead friends and figure out the truth." Yu Gyeong-geun, a spokesman for the families of the students, said in a radio interview on Tuesday that no matter how much compensation "we would receive, it would be meaningless for us if the investigation into the truth is not realized." A joint rescue team, formed with divers from the military, the government and some civilian groups, recovered one more body yesterday from the sunken ferry - 24 days after they found the last. A DNA test is necessary to identify the body, which has been trapped in the ferry for months, but police assume it could be a female cook from the kitchen on the third deck. Of the 476 passengers, 10 remain missing, five of whom are students, and 294 are confirmed to have died. **Source :** [koreajoongangdaily](#)

Inséré le 12/08/14 HISTORIEK HISTORIQUE Enlevé le 12/09/14

In dienst van de 'World's First Navy'

Hoewel de Kriegsmarine en de Amerikaanse vloot numeriek alsmaar dichterbij de buurt kwamen van de Royal Navy, gold de Britse marine bij het begin van de Tweede Wereldoorlog nog steeds als de sterkste ter wereld. Dat was al zo sinds de dagen van Lord Nelson, de legendarische vlootvoogd die in 1805 de gecombineerde Frans-Spaanse vloot had verpletterd bij Kaap Trafalgar. De rijke tradities van de Royal Navy, de militaire prestaties en het onbetwistbare vakmanschap van zijn officieren en matrozen maakten indruk. Ongetwijfeld diende precies daarom een aantal Belgen vanaf 1940 onder Britse vlag. Gezien de aanvankelijke terughoudendheid van de Belgische regering om de koopvaardij schepen in te zetten en een eigen marinedetachement op te richten, was dat overigens goed te begrijpen.

Een van de eersten die naar de Royal Navy overstapten, was luitenant Victor Billet. Anders dan de Belgische regering wisten de Britten de kwaliteiten van Billet wél naar waarde te schatten en ze boden hem de kans zich verder te bekwamen als marineofficier. Zo bevond hij zich in mei 1942 in het trainingscentrum voor Combined Operations in het Schotse Dundonald Camp. Daar bereidde hij zich met vele andere militairen van de land- en zeemacht voor op Operatie Jubilee (initiële codenaam Rutter): de landing bij het Noord-Franse Dieppe.

Deze operatie had niet de progressieve verovering van bezet Europa tot doel. Daarvoor hadden de geallieerden in 1942 de manschappen, noch het materieel. Maar de onderneming moest wél de Duitse verdediging aftasten met het oog op een latere, échte invasie. De initiatiefnemers van deze grootschalige commandoraid waren Lord Louis Mountbatten, hoofd van Combined Operations, en zijn adjunct, kapitein-ter-zee John Hughes-Hallett. Het overgrote deel van de landingstroepen bestond uit Canadezen. De Britten namen vooral de luchtdekking en de vuursteun vanaf zee voor hun rekening. Ook het transport was een hoofdzakelijk Britse aangelegenheid en gebeurde met speciaal daartoe ontworpen of gemodificeerde schepen: LSI's (Landing Ship Infantry), bijgestaan door kleine platbodems om de troepen aan land te brengen, en LCT's (Landing Craft Tank).

Een van deze 450 ton wegende LCT's, de nr. 159, stond onder het bevel van Billet en bracht op die bewuste negentiende augustus 1942 zes tanks van het Canadese 14th Calgary Regiment en hun bemanning naar het strand van Dieppe. Nauwelijks had de LCT 159 grond geraakt of de hel brak los. De Duitsers concentreerden al hun vuurkracht immers op de smalle strandsector en maakten een ontscheping zo goed als onmogelijk. Slechts enkele tanks en kleine groepjes soldaten slaagden erin van de plaats van ontscheping weg te komen en contact te maken met de vijand. Deze lokale acties brachten het Duitse defensiesysteem echter nauwelijks schade toe. Een Brits marineofficier vergeleek de landingsoperatie op 19 augustus zelfs met de Charge van de Lichte Brigade, de waanzinnige stormrit van een Britse cavaleriebrigade tegen de Russische artillerie tijdens de Krimoorlog, in 1854. Ook het ondersteuningsvuur van de Royal Navy en de inzet van zeventig luchtmachtscadrilles, waaronder één Belgisch, konden niet verhinderen dat Operatie Jubilee eindigde in een bloedige catastrofe. Van de 6000 geallieerde soldaten die aan de landing deelnamen, kwamen er 1000 om en er werden er meer dan 2000 krijgsgevangen gemaakt. Vele anderen raakten gewond. De Royal Navy telde ruim 500 gesneuvelden, onder wie Vic Billet. Hij werd naar alle waarschijnlijkheid gedood op het ogenblik dat de Duitsers zijn landingsvaartuig aan flarden schoten. Behalve de nr. 159 werden nog vier andere LCT's vernietigd.

De Britten toonden zich erg erkentelijk tegenover de Belgische marineofficier die zijn leven had gegeven voor de geallieerde zaak. Tot het einde van de oorlog kreeg Billets weduwe maandelijks het loon van haar echtgenoot uitbetaald. Heel wat minder dankbaar was de Belgische overheid. Voor de Belgische administratie was de officier van de vooroorlogse ferrydienst Billet immers een 'burger met verlof'. Dat hij tijdens dat 'verlof' als geallieerd militair deelnam aan de strijd én sneuvelde, was blijkbaar van ondergeschikt belang. Uiteindelijk werd er pas lange tijd na de oorlog dankzij de bemiddeling van de Belgische Zeemacht toch een financiële regeling getroffen, maar voor de nabestaanden bleef het uiteraard een pijnlijke historie.

De Belgische deelname aan Operatie Jubilee bleef niet beperkt tot die van de onfortuinlijke luitenant Billet. Ook twee jonge officieren, vrijwilligers bij de Royal Navy, maakten de ramp van Dieppe van nabij mee. J. Van Dyck diende op de mijnenveger *HMS Ilfracombe*, die de vaarroute naar Dieppe moest helpen beveiligen. G. De Poorter bevond zich aan boord van de *LSI Queen Emma*, die het jaar voordien was ingezet tijdens de (succesvolle) commandoraid in Lofoten. Bovendien waren vier van de negen LSI's in Dieppe voormalige Belgische ferry's van de lijn Oostende-Dover: de *Prins Karel*, de *Prins Leopold*, de *Prins Albert* en de *Prinses Astrid*. Een bijzondere band hadden de Belgen met de *HMS Fidelity*. Dit voormalige Franse vrachtschip was in juni 1940 door zijn Corsicaanse gezagvoerder overgedragen aan de Britten en het bracht vervolgens een aantal eerder opgepikte militairen – Belgen en anderen – naar Groot-Brittannië. Daar gingen de meeste opvarenden, onder wie luitenant Georges Danloy, van boord, maar enkelen verkozen te blijven. De Britse Admiraliteit had immers beslist om de *Fidelity* in te zetten voor special

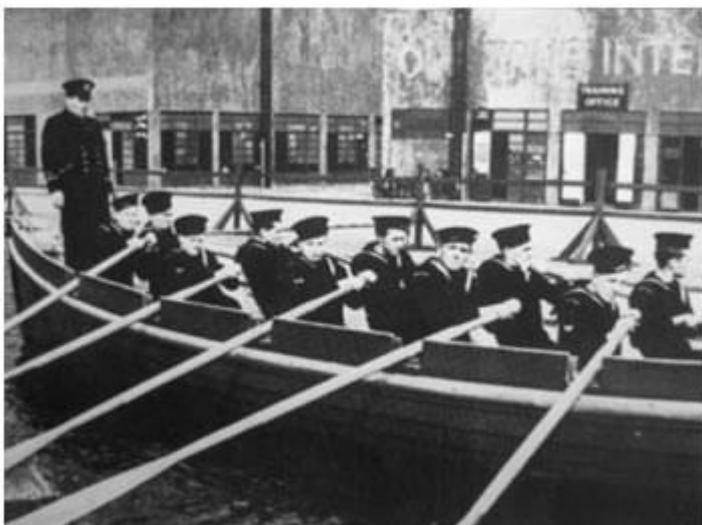
operations, als zogenaamd *Q-ship*. De verantwoordelijke officier aan boord was de Brusselse legerarts Albert Guérisse, alias Pat O'Leary. Gezien de bijzondere aard van de operaties namen de bemanningsleden allen een schuilnaam aan.



Vanaf eind 1940 bracht de *Fidelity* in het grootste geheim SOE-agenten (Special Operations Executive) aan land en voerde andere topsecretopdrachten uit. O'Leary ging in april 1941 zelf aan land en bouwde na een kort verblijf in een Franse cel een van de efficiëntste ontsnappingslijnen voor geallieerde militairen uit. Aan het eind van dat jaar keerde de *Fidelity* terug naar Groot-Brittannië om te worden omgebouwd tot bewapende koopvaarder voor speciale opdrachten in het Verre

Oosten. Zijn laatste reis maakte de *Fidelity* in december 1942 met konvooi ONS-154. Op 30 december werd het schip gekelderd door de U-435, nadat het de dag voordien al getroffen was door een andere Duitse onderzeeër. De meer dan 300 opvarenden, onder wie 150 commando's, wisten zich tijdig in de reddingsloepen te hijsen, maar toch zou haast niemand overleven door het bijzonder barre weer. Wie de ramp wel overleefden, waren de bemanningsleden van de kleine motortorpedoboot van de *Fidelity* en hun Belgische commandant, luitenant Pieters, alias Peter O'Neill.

Tijdens de twee jaar dat het schip in dienst was van de Royal Navy, verbleven naast Guérisse en Pieters nog verschillende andere Belgen aan boord van de *Fidelity*. Zo ook Albert Piet Vergauwe, die op 31 december 1941 dienst had genomen bij de Royal Navy en nadien enige tijd met het specialoperationschip meevoer. Door zijn uitstekende kennis van het Duits en het Engels kreeg Vergauwe een opleiding als ontcijferaar. In april 1942 nam hij aan boord van de destroyer *HMS Walpole* deel aan de jacht op Duitse kaperschepen. Twee maanden later raakte hij ernstig gewond toen zijn vaartuig, *Motor Gun Boat 67*, tijdens een afluisteractie voor Vlissingen onder vuur werd genomen. Het avontuur nabij de Nederlandse kust leverde Vergauwe drie maanden hospitaal op. Een stuk metaal zou in zijn rug blijven zitten, maar in september 1942 bevond hij zich opnieuw aan boord van de *Walpole*. Nadat hij zijn officiersopleiding had voltooid, monsterde hij aan op de *HMS Milne*, een destroyer die eind 1943 betrokken was bij de jacht op de *Scharnhorst*. Dit Duitse slagschip, dat zo lang een bedreiging had gevormd voor de geallieerde konvooien naar de Sovjethaven van Moermansk, werd uiteindelijk ontdekt en op 26 december door een gevechtsgroep van de Royal Navy tot zinken gebracht. De vernietiging van de *Scharnhorst* was een zware klap voor het Duitse moreel en ondermijnde ernstig de slagkracht van de Kriegsmarine in het Arctische gebied.



Ook andere Belgen namen deel aan belangrijke maritieme operaties. Zo maakte Daniel Geluyckens als schootofficier op de destroyer *HMS Dulverton* de ontschepingsoperatie in het Zuid-Italiaanse Salerno mee, in september 1943. Een handvol Belgen diende op Britse duikboten. Onder hen David Pels, een student van Joodse origine die in 1940 door Billet was gerekruteerd en het tot onderluitenant bracht. Vanaf eind 1942 joeg Pels met

de *HMS Talbot* en nadien met de *HMS Ultor* op Duitse en Italiaanse schepen in de Middellandse Zee. De onderzeeërs van de Royal Navy daar richtten dezelfde ravage aan als Dönitz' U-boten op de Atlantische Oceaan. Met bijna dertig gekelderde schepen op zijn naam was de *Ultor* bovendien een van de succesvolste Britse 'zeewolven'. Als officier van de *Ultor* had Pels ook een belangrijk aandeel in Operatie Shingle: op 22 januari 1944 werd de landingszone voor de geallieerde troepen bij Anzio, 50 km ten zuiden van Rome, gemarkeerd. Verder namen Belgische zeelui bij de Royal Navy deel aan de bescherming van konvooien tussen Noord-Amerika en Groot-Brittannië en naar de Russische marinehaven Moermansk. Enkele Belgen deden dienst op de vliegdekschepen *HMS Illustrious* en *HMS Furious*. Een buitenbeentje was André Schlim, een puber die na lange omzwervingen in september 1942 Groot-Brittannië bereikte en marinepiloot werd (zie kadertekst).



Ook bij de erg riskante klus van het mijnenvegen zetten Belgen hun beste beentje voor, onder meer aan boord van de *HMS Truelove* en de *HMS Hebe*. De *Hebe* opereerde vanuit Malta, op de strategische route tussen Gibraltar en Egypte, en werd meermaals zwaar onder vuur genomen door vijandelijke vliegtuigen, duikboten en oppervlakteschepen. Maar het ergst van al was het vrijmaken van de nauwe haventoeegangen, waar de concentratie aan mijnen het dichtst was. Na een

lange staat van dienst liep de *Hebe* op 22 november 1943 bij het Zuid-Italiaanse Bari op een mijn en ontplofte. De Belgische luitenant Pesch overleefde het inferno en werd afgevoerd naar een hospitaalschip. Maar dat werd kort nadien op zijn beurt beschoten, een lot dat ook een in de buurt aangemeerde tanker te beurt viel. Er ontstond een reusachtige brand, maar Pesch wist andermaal de dodendans te ontspringen en werd gerepatriëerd naar Groot-Brittannië. Toen de Britse Admiraliteit de ervaren Pesch enkele maanden later opnieuw naar een mijnenveger zond, zou de Belg eerst formeel hebben geweigerd. Je zou voor minder... Pesch belandde uiteindelijk bij de 23ste escortegroep in Gibraltar.

Na vier jaar oorlog konden de Belgische zeelui bij de Royal Navy en de koopvaardijvloot een behoorlijke erelijst voorleggen. En dat konden ook de Belgen die bij de Royal Air Force dienden.

Te jong voor de strijd?

Enkele Belgen die naar Groot-Brittannië trokken om te vechten, waren nauwelijks hun kinderjaren ontgroeid. Zo kwam de latere stafchef van de Belgische Luchtmacht, Marcel De Smet, in april 1943, daags na zijn achttiende verjaardag, bij de RAF terecht en werd gevechtspiloot. De jonge man had er toen al een carrière bij het verzet op zitten, bijna een half jaar Spaanse interneringskampen en een korte diensttijd bij de landmacht in Groot-Brittannië. André Schlim (1926-1999), van 1980 tot 1985 stafchef van de Belgische Zeemacht, leidde zijn Britse ondervragers zelfs regelrecht om de tuin over zijn leeftijd. Als vijftienjarige was hij eind 1941 uit België gevlucht. Daarna zat hij onder andere zes maanden in een Frans werkkamp dat geleid werd door officieren van het Vreemdelingenlegioen. En na lange omzwervingen kwam hij in september 1942 in Groot-Brittannië aan. Hij kreeg een opleiding als radio-operator bij de Royal Navy en monsterde begin 1943 aan op de *HMS Charybdis*. Aan boord van deze lichte kruiser nam hij in oktober van dat jaar deel aan Operatie Tunnel, de jacht op de Duitse cargo *Münsterland*. Dit hypermoderne en snelle schip vervoerde grote hoeveelheden chroom, rubber en andere voor de Duitse oorlogsindustrie belangrijke goederen. Voor de Britse Admiraliteit was de interceptie of de

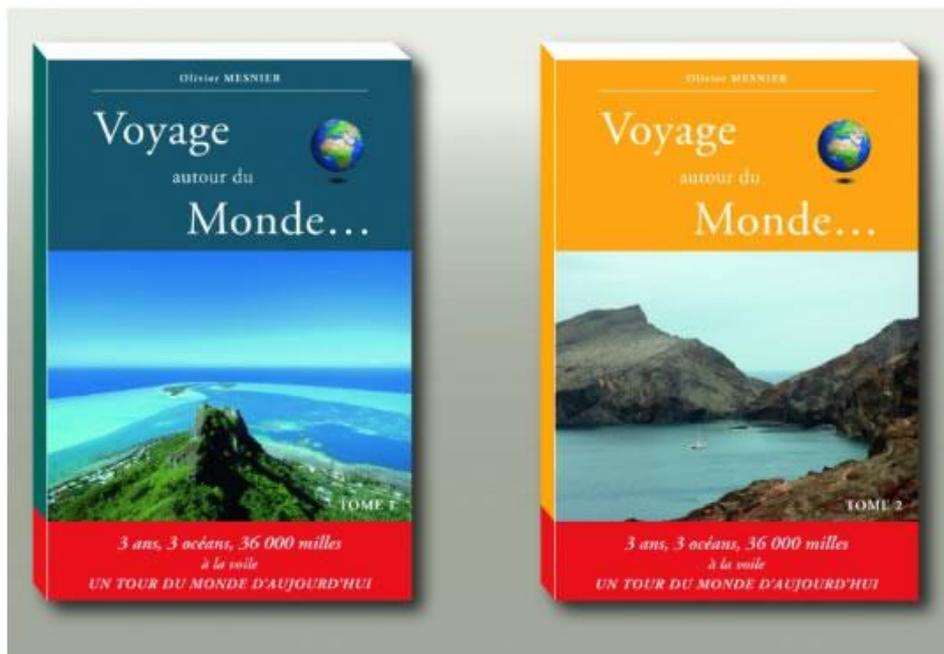
vernietiging van de *Münsterland* van het allergrootste belang, een opdracht die werd toegewezen aan de *Charybdis* en de destroyer *HMS Limbourne*. Al vlug echter werden de twee Britse oorlogsbodems zelf achternagezeten door de escorteschepen van de *Münsterland* en op 23 oktober nabij Sept Isles voor de Bretoense kust tot zinken gebracht. Op de *Limbourne* kwamen ruim 40 van de 150 opvarenden om het leven. Van de 570 man tellende bemanning van de *Charybdis* overleefden er slechts 107 het gevecht. Onder hen ook de zeventienjarige Schlim. Ironisch genoeg gaf deze voor de Royal Navy rampzalige dag Schlims militaire carrière een verrassende wending. Het was immers zijn grote droom om piloot te worden, en de ondergang van de *Charybdis* bood hem de kans daartoe. De Belgische legerleiding, dringend op zoek naar geoefende zeelui, had hem na 23 oktober uit het oog verloren, maar aan Britse zijde had de overlevende van de *Charybdis* blijkbaar enige goodwill gecreëerd. Zo begon Schlim eind 1943 zijn opleiding bij de Fleet Air Arm, de Britse marineluchtmacht. Een jaar later maakte hij deel uit van squadron 892 in Noord-Ierland, dat onder meer anti-U-bootmissies vloog. In april 1945 crashte hij met zijn gloednieuwe Amerikaanse Hellcatjager en belandde voor de rest van de oorlog in het hospitaal. Het was overigens niet de eerste keer dat hij zich zo in de kijker plaatste. Na de oorlog grapte viceadmiraal-vlieger Schlim over zijn verblijf in Groot-Brittannië: *'Ik ben de enige geallieerde piloot aan wie Hitler het IJzeren Kruis wilde overhandigen. Ik maakte het de Duitse AA-verdediging bijzonder gemakkelijk; tijdens mijn opleiding vloog ik immers twee toestellen in de prak...'* (geciteerd in *Vox*, 25 augustus 1999).

Inséré le 12/08/14 BOEKEN LIVRES Enlevé le 12/09/14 **Voyage autour du Monde...**

3 ans, 3 océans, 36 000 milles à la voile en famille à bord d'un catamaran de 15 mètres

L'histoire d'un tour du monde d'aujourd'hui...

**Voyage autour du monde - Tour du monde à la voile - Catamaran de grande croisière
Voilier de grand voyage - Croisière sabbatique - Voyage en bateau
Croisière lointaine - Tour du monde en bateau - Circumnavigation**



Tome 1 Format 240x160 mm/466 pages/93 photos/3 cartes)
Tome 2 Format 240x160 mm/464 pages/93 photos/2 cartes)

Voyage autour du Monde...

« **Le tour du monde en voilier**, c'est le rêve d'une vie pour beaucoup d'entre nous, et c'est dans cette véritable **aventure humaine** que l'auteur nous entraîne à travers les 2 tomes du récit qu'il en a tiré. **Voyage autour du Monde... se lit comme un roman. Pour tous ceux qui envisagent un jour d'entreprendre un voyage en voilier, et a fortiori de faire le tour du monde, ce livre constitue une véritable mine d'informations indispensables à la préparation du voyage... »**
Jean-Christophe Guillaumin / Multicoques Magazine

Accomplir un jour le **tour du monde à la voile** compte toujours au nombre des rêves mythiques de l'homme occidental. Il s'agit souvent d'une œuvre humaine majeure dans la vie de ceux qui l'ont osée. Si cette aventure ne représente plus un exploit maritime, elle reste tout de même une belle entreprise personnelle et familiale aux retentissements imprévisibles et multiples, dont le récit permet d'approcher la réalité, de mûrir un projet similaire, ou simplement de perpétuer le rêve...

Ce **voyage de 3 années et 36 541 milles autour du monde** réalisé en famille à bord d'un catamaran d'occasion reconditionné de 15 mètres nous a emmenés dans des lieux aussi différents que les îles Selvagens, Santo Antao ou Sao Nicolau, les deltas du Siné-Saloum et de la Casamance, les rochers Saint-Paul, les **îles** du Salut ou l'archipel des San Blas, Panama et les Perlas, les Galapagos, les Gambier et les Tuamotus, Tahiti et Bora Bora, Maupiti et Mopélia, l'atoll de Suvarov, **l'île** de Niue, et Tofua, aux Tongas. Nous avons, entre mille autres choses, vécu la fête de la Tabaski à Ehidj, fait une escale rare en plein Océan Atlantique, secouru un voilier abordé par des cachalots à l'approche du Brésil. Nous avons pêché malgré nous 7 requins d'un coup dans l'atoll d'Amanu aux Tuamotus, analysé les mécanismes hydrauliques de la passe redoutée de Maupiti, assisté à la mort d'un voilier sur l'île déserte de Kelelesia. Nous avons retrouvé la grotte refuge du Capitaine Bligh, à Tofua, nous avons nagé avec les baleines à bosses, aux Ha'apai. Impuissants, nous avons été poussés sur un récif de corail par un grain d'une extrême violence, de nuit au mouillage, à proximité de l'îlot désert de Limu Island (Tongas). Mais, seuls, nous avons pu retrouver les eaux saines et, quelques semaines plus tard, nous pédalions, heureux, sur la piste de *l'Otago Central Rail Trail*. Nous étions parvenus au pays du long nuage blanc. Kia Ora Aotearoa ! La Nouvelle-Zélande, pour un arrêt technique, et une escale verdoyante de 5 mois. Avant...

Avant de reprendre la mer. Laquelle nous réservait, bien sûr, de nouvelles aventures !

Après une longue escale aux antipodes, la route maritime du retour a cheminé pour nous pendant plus de 18 000 milles via le détroit de Torrès et l'Afrique du Sud. L'île des Pins, le Vanuatu, les Louisiades, le Timor, les îles de la Sonde, Bali, et Christmas... Cocos Keeling et Rodrigues, poussières d'îles isolées, aux mouillages enchantés. Mer Rouge et Canal de Suez ? Non. Par souci de sécurité, mais aussi du fait des nombreux attraits de la route sud. Alors nous sommes redevenus marins pour négocier un passage délicat au sud de l'Afrique, allongeant des vitesses moyennes de folie dans la veine du courant des Aiguilles... Etrange navigation dans les dunes du désert du Namib. Heureux, nous avons retrouvé le **soleil** de l'Atlantique Sud et les longues glissades sous les étoiles. Vers Sainte-Hélène et Ascension. Nous avons parcouru les lieux de l'assassinat de Marion-Dufresne dans la Baie des Iles, avons assisté à l'incroyable saut du *N'gol* à Rangusuku, bu le *kava* dans la quiétude du soir à Port-Vila. Nous avons rencontré un serpent agressif, en pleine mer, dans le détroit de Torrès, nous avons côtoyé les varans de Komodo sur l'île de Rindja. Nous nous sommes intéressés à la ligne Wallace à Lombok, et à la dynastie Clunies-Ross aux Cocos. Le plus beau lagon des Mascareignes ? Rodrigues. L'Afrique australe ? La nature y est puissante... L'anémomètre a atteint 65 nœuds au large d'East London. Mais, émerveillés, nous avons approché les grands animaux sauvages du continent

noir. Nous avons remonté les côtes arides de Namibie dans le brouillard, au milieu des phoques, jusqu'à Walvis Bay. Ont suivi trois semaines passées à arpenter les hauteurs chargées d'histoire de Sainte-Hélène. Et puis... Et puis un jour de printemps, après des milliers de milles et des mois de voyage, nous avons recoupé notre sillage océanique, là-bas, quelque part au sud des îles du Cap Vert. Nous avons atteint notre objectif, nous avons bouclé le tour du monde...

Voyage autour du Monde... est un récit accessible à tous, lecteurs généralistes aussi bien que praticiens de la grande croisière à la voile, et voyageurs de tous poils, hommes et femmes. Le texte décrit sur l'ensemble du voyage la totalité des aspects de la vie à bord, sans jamais insister sur les notions purement techniques de la manœuvre ou de la navigation. La relation reste compréhensible par tous sans connaissances particulières et s'intéresse, quand l'occasion se présente géographiquement, à l'aspect historique de certains événements survenus localement.

Voyage autour du Monde... privilégie l'authenticité. J'ai tenu à transmettre l'image la plus fidèle possible de ce que représente l'ensemble d'un voyage de cette ampleur, réalisé en famille, en évitant de donner un angle d'approche restreint à la relation écrite.

Ce livre, bien qu'il recèle une multitude d'informations utiles au voyageur au long cours, n'est surtout pas un guide nautique de grande croisière. Il en existe de très bons.

Le premier tome couvre la préparation du projet et le départ de La Rochelle, puis le voyage jusqu'à notre séjour de plusieurs mois à terre en Nouvelle-Zélande. Le second débute avec le réarmement du bateau à Marsden Cove (NZ), pour parcourir l'itinéraire retour jusqu'au port de La Rochelle, terme du voyage.

J'espère que récit donnera à ceux qui hésitent encore à se lancer l'envie d'entreprendre leur propre aventure.

Quelle qu'en soit l'issue, il n'y a guère à envisager de regrets d'avoir tenté l'**échappée belle**.

Le temps presse. Il y a urgence à vivre. **La vie est un privilège...**

Inséré le 14/08/14 DOSSIER Enlevé le 14/09/14

Using IT for the MLC

The Maritime Labour Convention (MLC) 2006 finally came into force during the summer of 2013, bringing with it a number of guidelines and recommendations pertaining to life on board ship for modern crewmembers – sometimes described as a 'seafarers' bill of rights'. Digital Ship examines some of the provisions, and areas where IT may be able to help

On August 20, 2013, the Maritime Labour Convention (MLC) 2006 entered into force and became binding international law for the "first 30" – the 30 countries with registered ratifications on August 20, 2012 – and will enter into force for all other countries that have ratified it 12 months after their ratifications were registered.

Described as the "seafarers' bill of rights", the MLC sets out standards, which are compulsory, and guidelines, which are not binding.

The effects of the new regulations have been almost immediate – in both Canada and Denmark ships were detained within weeks of MLC entering into force, in each case being stopped over a lack of employment contracts.

Following intervention by both Port State Control and the International Transport Workers' Federation (ITF) both vessels are now MLC compliant.

Areas covered by MLC include requirements in terms of work hours and medical care as well as recommendations in terms of communications, entertainment and distance learning – all areas in which IT can play a decisive role.

The limits on hours of work or rest come under the ‘standards’ category, and will be compulsory for applicable shipping companies.

Each country is required to fix either maximum hours of work (not more than 14 hours in a day; and not more than 72 hours in a week) or minimum hours of rest (at least ten hours in a day; and at least 77 hours in a week). Hours of rest may be divided into no more than two periods, and the interval between periods of rest shall not exceed 14 hours.

Designing a crew schedule that complies with those requirements may prove a conundrum.

“It will depend on the size of the crew, the number of people on board,” notes Brandt Wagner, maritime specialist at the International Labour Organisation (ILO), the UN agency that initiated the MLC.

“If you have a small number of people, it’s not so complicated. If you have a large crew, like in a passenger ship, obviously it’s going to be more complicated.”

“In order to make it easier on the shipowner because they’re trying to figure out how to do this effectively, the International Shipping Federation for example put together a program called Watchkeeper, which is sort of a software program that allows the user to establish schedules and also to keep track of hours of rest or hours of work.”

Mr Wagner additionally notes that “these requirements on hours in the MLC are not new. They come almost entirely from a previous convention, Convention No 180, which was adopted in 1996.”

In his eyes, the difference lies in that “the MLC is going to be almost universally ratified, universally accepted. And so what you’re going to see now is many more countries than before implementing it and trying to keep hours of rest and hours of work and probably turning to technology in order to do it efficiently.”

Natalie Shaw, director of Employment Affairs for the International Chamber of Shipping (ICS) and the International Shipping Federation (ISF), describes the ISF Watchkeeper package as “an electronic method allowing to record work and rest hours.”

“The ship is still required to hold manual copies as well on board that can actually show the work shift patterns of the crew, but it’s a mechanised system to help with the planning,” she explains. Ms Shaw told Digital Ship that usage of the software was increasing steadily, “but that’s not just due to the MLC,” she says.

“It’s also due to the tougher requirements as far as the STCW convention compliance is concerned. (And) people want to have a better mechanism of reporting to meet the port state control requirements.”

Still, now that the MLC has come into force in the first 30 countries that ratified it, Ms Shaw predicts that more and more shipowners will turn to IT to keep track of work and rest hours. Other maritime software providers, in addition to ISF, have also created programs in this regard, so shipping companies should at least have some options open to them.

MLC facts

The MLC states (in article IV) that:

1. Every seafarer has the right to a safe and secure workplace that complies with safety standards.
2. Every seafarer has a right to fair terms of employment.
3. Every seafarer has a right to decent working and living conditions on board ship.
4. Every seafarer has a right to health protection, medical care, welfare measures and other forms of social protection.

The International Labour Organization's (ILO) Maritime Labour Convention, 2006, (MLC, 2006) entered into force 20 August 2013 in the first 30 States to ratify the Convention: Antigua and

Barbuda, Australia, Bahamas, Benin, Bosnia and Herzegovina, Bulgaria, Canada, Croatia, Cyprus, Denmark, Kiribati, Latvia, Liberia, Luxemburg, Marshall Islands, Netherlands, Norway, Palau, Panama, Philippines, Poland, Russian Federation, Saint Vincent and the Grenadines, Singapore, Spain, St Kitts and Nevis, Sweden, Switzerland, Togo, Tuvalu.

For all other countries that have ratified, it will enter in force 12 months after their ratifications were registered.

Since August 20, 2013, all commercially operated ships of 500 gross tonnage or over which fly the flag of one of the first 30 countries, if they operate on international voyages, are required to carry two specific documents: a Maritime Labour Certificate (MLC) and Declaration of Maritime Labour Compliance (DMLC).

These documents provide prima facie evidence that the ships are in compliance with the requirements of the Convention, including areas such as minimum age, seafarers' employment agreements, hours of work or rest, payment of wages, on board medical care, the use of licensed private recruitment and placement services, accommodation, food and catering, and health and safety protection and accident prevention.

In addition, ships flying the flag of countries that have not ratified the MLC are also subject to inspection with respect to working and living conditions for seafarers when those ships enter in port of countries where the MLC is in force. This provision, called "no more favourable treatment," aims at helping to ensure fair competition for shipowners who comply with the MLC. ■

Medical care

The Maritime Labour Convention also sets a compulsory standard for medical care on board. It states that the seafarer should be provided with "health protection and medical care as comparable as possible to that which is generally available to workers ashore, including prompt access to the necessary medicines, medical equipment and facilities for diagnosis and treatment and to medical information and expertise."

As a guideline for implementation, the ILO suggests that "all ships should carry a complete and up-to-date list of radio stations through which medical advice can be obtained; and, if equipped with a system of satellite communication, carry an up-to-date and complete list of coast earth stations through which medical advice can be obtained."

From Mr Wagner's point of view, the potential methods of complying with this could be broad. "Basically, you have to have the means of communicating to shore to get medical advice. It doesn't really go too much beyond that," he says.

Despite this limited definition, a number of initiatives are taking place in the field of telemedicine. "In the maritime medical community there is a lot of work going on to provide excellent ways of communicating with doctors ashore," notes the ILO expert.

"What is happening is that shipowners are genuinely trying to figure out how to do this very effectively. I think most shipowners want their crews to have the benefit of good medical advice. So they're facilitating this in order to provide the medical advice."

Mrs Shaw is of the same opinion. "There is going to be clearly an increased use of medical computer linked advice, sometimes by video-conferencing," she says.

"It is not mandated by the convention. The convention merely requires the ability to access medical advice from ship to shore. But certainly there is a move among the telemedical service authorities to actually use online technology to support this."

Video can be used to allow a doctor ashore to examine a patient on board and place a diagnosis, she says. If needed, the doctor can also demonstrate the procedure to apply.

As with work/rest hours management, the maritime telemedicine field contains a number of technology providers offering a range of services to bring medical expertise to vessels at sea, so ship operators looking to apply IT in this area should have no shortage of options.

Inspections

Hours of work or rest and on-board medical care are among the 14 listed elements that port state control officers (PSCOs) must check while carrying out inspections under the MLC.

Inspectors must see the table of shipboard working arrangements and verify records of work or rest hours, and are also advised to look at evidence that procedures are in place for radio or satellite communications for medical assistance.

Other areas of inspection include: minimum age, medical certification, qualifications of seafarers, employment agreements, use of recruitment and placement service, manning levels for the ship, accommodation, on-board recreational facilities, food and catering, health and safety and accident prevention, on-board complaint procedures, and payment of wages.

Communications

Communications and entertainment come under the non-binding recommendations set by the MLC. These guidelines state that seafarers should be granted “reasonable access to ship-to-shore telephone communications, and e-mail and internet facilities, where available, with any charges for the use of these services being reasonable in amount.”

“It’s guidance in this case, it’s not so binding,” notes Mr Wagner, of the ILO.

“This convention is implemented through national laws so many of these things have to be worked out at the national level.”

Mr Wagner does believe, however, that some shipowners are endeavouring to improve their communications facilities “because it’s good business and it’s the way they’re going to attract people on their vessels.”

“The idea of going out and being isolated for a long period of time is unacceptable to young people today,” he notes.

“Good shipowners, the ones who are looking to the future there, they are trying to make their ships attractive places to work by providing as much internet access as possible, easier access to movies, easier access to calling home. Many ships have direct e-mail and communications so seafarers are really never out of contact with their family.”

Natalie Shaw, of the ISF, has noticed another trend.

“A number of companies have started to put that as one of the benefits when they negotiate their collective bargaining agreement,” she says.

“As part of the package which they’re negotiating on an annual basis, the union side may well put forward a request for these services and products and pay increases. And some companies have chosen to suggest provision of e-mail and computer access on board their vessels as part of that package.”

Connectivity at sea comes at a cost to shipowners, but several satcom providers offer solutions to control that cost and/or share it with the seafarers.

For instance, individual crew members can be assigned a data allowance, or a pay as-you-go account which they can top up when needed. The International Shipping Federation is additionally pushing for free Wi-Fi provision for seafarers in ports.

“There is also certainly an increase to try and encourage ports to provide free Wi-Fi access in port,” says Ms Shaw.

She explains that as seafarers move to smartphones, they want to bring their own device to sea and expect to be able to use it to write e-mails and access applications.

Recreation

The MLC guidelines on recreational facilities on board suggest that, where practicable, consideration should be given to: television viewing and the reception of radio broadcasts; “showing of films, the stock of which must be adequate for the duration of the voyage and, where necessary, changed at reasonable intervals”; and “electronic equipment such as a radio, television, video recorders, DVD/CD player, personal computer and software and cassette recorder/player”.

Although these provisions are not compulsory, several satcom providers obviously see a potential market there, as they are getting ready to launch content packages in addition to their more typical bandwidth and airtime offerings.

Another MLC recommendation is to allow for “correspondence courses in a variety of subjects of interest to seafarers”.

There again, several companies are already offering maritime distance learning and computer based training packages, across an almost limitless range of subjects. Shipowners that wish to provide educational content through the use of IT should have no problem doing so, in conjunction with a variety of providers.

Looking ahead

Although those latter two recommendations on communication and recreation are just that, recommendations, they might become compulsory in the future.

The Seafarers’ Welfare Convention, which the MLC has revised, states that “welfare facilities and services shall be reviewed frequently to ensure that they are appropriate in the light of changes in the needs of seafarers resulting from technical, operational and other developments in the shipping industry.”

“A convention is a living document,” says Mr Wagner, of the ILO.

“In the future, it can be amended. The convention is designed to allow amendments that may actually make some of these things that we’re talking about mandatory.”

“As the needs come, as people recognise what is possible, the things will happen. So the Maritime Labour Convention isn’t something that was just adopted and will stay entirely as it is forever, it will change with the needs of the industry.”

DigitalShip

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Euronav shrinks loss

Euronav trimmed its losses in the second quarter as it revealed a rising rate spot environment for VLCCs and suezmaxes.

The Belgian tanker owner reported a quarterly loss of \$22.6m, compared to \$28.5m in the same period of 2013. The company logged \$22.1m in earnings before interest, taxes, depreciation and amortisation (Ebitda), below the \$24.5m expected by RS Patou Markets when a \$6.5m estimated vessel sale loss is included. Revenue shrank to \$95.1m from \$99m, but the Antwerp-based company’s depreciation expense fell to \$34.2m during the period compared to \$41.8m in the second quarter of last year. The results come as **Euronav** pointed to positive signs in tanker markets, particularly for larger vessel classes. “Rates in both VLCC and suezmax categories have improved significantly during June and July,” said chief executive Paddy Rogers. “We believe crude tanker rates will remain strong in the coming months due to positive seasonal demand factors and improving fundamentals.” **Euronav** said its VLCCs garnered a time-charter equivalent (TCE) rate of \$19,150 per day in the Tankers International (TI) pool, an improvement on the \$14,200 per day earned last year. But in the third quarter, the TI pool spot rates are coming in at \$22,600 per day in the start of the third quarter, with 37% of the available days fixed. Suezmax rates grew more modestly in the second quarter, with the average second-quarter spot rate at \$20,500 per day compared to \$18,400 in the same period in 2013. But Euronav’s suezmaxes are earning an average of \$21,800 per day in the current quarter, with 53% of available days locked in. Euronav said last quarter was dominated by a long and deep

refinery turnaround season that cut crude demand, but it didn't detract from underlying fundamentals. Once refineries came back online towards the end of the quarter, it pushed rates upward. Euronav and TI, which also includes DHT Holdings and Overseas Shipholding Group, "were observing this and pressing the market for higher rates to reflect the tight balance," the Belgian owner said. The company, which owns 51 tankers, reported a first half loss of \$21.2m, an improvement on \$39.3m in the same period of 2013.

Source : Tradewinds

Inséré le 18/08/14 DOSSIER Enlevé le 18/09/14

Germany agrees to allow armed guardson board its vessels

The German Parliament has approved new legislation on the employment of private maritime security companies (PMSCs) on German-flagged vessels.

The requirements are mainly based on the IMO MSC 1/Circ.1405/Rev. 2 and MSC 1/Circ. 1443.

However, the German legislator added further requirements.



German flag vessels may take advantage of armed guards from the end of this year.

The competent authority for the licensing is the German Federal Trade and Export Control Agency (BAFA) and the respective local firearms licensing department of the City of Hamburg, reports from Germany confirmed.

Licenses will be mandatory as from 1st December, 2013.

The licensing system is two-fold, involving a business and a firearms license.

According to Dabelstein & Passehl, the documents to be submitted and vetted by BAFA for the business license include:

- Mandatory management self-assessment on competency to provide security services.
- Certificate of good conduct issued by authorities equivalent to German governmental authorities.
- Certificate of liability insurance.
- An annual training plan on various topics, including a 40 hour training schedule covering German and international legislation pertinent to armed guard services.
- The appointment of an individual for legal services to the company and its personnel upon request.

For the firearms license the documents to be submitted to the firearms licensing department of the City of Hamburg include;

- The business license.

- Certificates of good conduct issued by authorities equivalent to German governmental authorities.
- Contracts of employment.
- Evidence of firearms handling competency.
- Proof of secure storage of firearms on board the respective vessels.

It was also reported that BAFA requires German translations of certain foreign languages.

Licensing fees charged by BAFA range between €17,000 - €25,000 as of 2nd July, Dabelstein & Passehl concluded.

"It is important that the authorisation process for private security services has finally started," said Ralf Nagel, executive board member of the German Shipowners' Association (VDR). "The key shipowners' points were considered by the Federal Government."

"The agreement will now swiftly and professionally enter the approval process," said Nagel, from the 1st December 2013, only licensed guard services authorised by BAFA may be used on German flag ships.

Move welcomed

Protection Vessels International (PVI), part of Protection Group International and a leading provider of private maritime security services, said that it welcomed new, tighter accreditation criteria for PMSCs working on German-flagged vessels and that the changes would lead to increased professionalism.

PVI also announced that it is working with German maritime and legal experts to provide additional in-house training to more than 100 of its operatives in order to meet new standards being set by BAFA, with compliance checks undertaken by the Bundespolizei.

Despite consternation among some PMSC's that the changes to German law pertaining to maritime armed guards has been overly challenging, PVI said that the company had found both the BAFA and Polizei Hamburg proactive and knowledgeable when providing direction and support during the accreditation process.

Eric Conway, managing director, PVI, explained: "PVI is one of the largest providers of armed security to the German marketplace, with the greatest operational footprint of any PMSC within high-risk areas. As such, PVI welcomes the tougher regulation and remains wholly committed to maintaining this position and protecting German-flagged vessels after the new legislation comes into force on 1st December of this year.

"Working with Marine Risk and Quality of Lampe & Schwartz Group to meet all of the criteria set out by the German authorities, PVI is already well advanced in the process to achieve accreditation and - despite criteria exceeding any existing regulation - rates will remain consistent.

"As well as providing shipowners, their crew and cargo owners, with greater assurance when transiting high risk areas, accreditation such as this presents great opportunity to those who aspire to the very highest of standards and is only a risk to those unable to undertake the challenge. Accreditation that recognises and rewards professionalism, quality and excellence is to be applauded and embraced," he said.

As part of the new certification processes being instilled in Germany, training standards form a key area and include required knowledge and skills relevant to the German public, such as - civil and criminal laws, including width and limits of right of self-defence, crisis handling, de-escalation techniques and the secure handling of weapon and equipment.

Conway said: "The maritime security industry is rightly being continually asked to raise standards and PVI believes that this is central to securing the confidence of the shipping market. As such, we will continue to take a leading role in promoting regulation and high standards within the industry, which is why we are also one of only a handful of PMSC's taking part in the ISO 28000/28007 accreditation process."

Ranked third behind Japan and Greece in terms of total capacity and number one in the containership segment, Germany is one of the world's most prominent shipping markets.

TO

Inséré le 20/08/14 BOEKEN LIVRES Enlevé le 20/09/14 **Op koers naar het Wereld Haven en Maritiem Museum**



Forse korting voor ons museumboek, het mooiste maritieme eindejaarsgeschenk van 2013

Via Watererfgoed Vlaanderen kan je het prachtige boek *Op koers naar het Wereld Haven en Maritiem Museum* bestellen met een forse korting. Het bij ons lid Pandora uitgegeven boek behandelt het Vlaamse maritieme museumlandschap vandaag, de sterkten en zwakten van Antwerpen, tientallen recente buitenlandse maritieme musea, de voorwaarden om in Antwerpen een maritieme superstar-attractie voor 1 miljoen bezoekers te bouwen, 10 alternatieve museumconcepten voor Antwerpen, en een gedetailleerd plan voor het Wereld Haven en Maritiem Museum, het WHaMM! Het boek telt 360 pagina's in groot formaat en bevat een zee aan prachtbeelden. Je kan [hier](#) enkele voorbeeldpagina's bekijken. Het is een kijk-, lees-, geniet- en droomboek dat alle maritieme harten sneller zal doen slaan. Het

is meteen het mooiste maritieme eindejaarsgeschenk denkbaar. In de winkel kost het 49,50 EUR, maar bij Watererfgoed krijg je een forse korting:

- 30 EUR voor onze leden en voor de leden van bij ons aangesloten organisaties, ereleden en adviseurs
- 30 EUR voor alle groepsbestellingen van minstens 10 exemplaren
- 40 EUR voor andere bestellers via ons.

Onze leden mogen het boek natuurlijk ook doorverkopen in hun shop of aan hun leden. Bestellen doe je met een mailtje naar seccr@watererfgoed.be. Afhaling gebeurt best na afspraak met Marcel op +32 (0)3 216 92 26. Verpakking en verzending binnen België is mogelijk, maar kost 10 EUR extra, en het is een groot pak. Prijs voor verzending naar het buitenland op aanvraag.

Inséré le 20/08/14 NIEUWS NOUVELLES Enlevé le 20/09/14 **Feature: Russia, Ukraine and LNG carriers**

Energy crises brought about by geopolitical events raise immediate fears about fuel supply security at the buyer's end of the supply chain and the detrimental economic impact at the seller's end. While hopes may be high that the principals behind the conflict resolve their differences quickly, the

pragmatists lose no time in determining how best to line up alternative sources of fuel to fill any gaps. The tensions between Russia and Ukraine that have been ratcheting up since the Kremlin annexed the Crimea in March 2014 have been taken to an entirely different level since the downing of Malaysian Airways flight MA17 over the eastern Ukraine on 17 July. Although nothing is known for sure, allegations are rife that the airliner was shot down by suspected pro-Kremlin separatist rebels in eastern Ukraine using surface-to-air missiles and launchers provided by Russia. The apparent reluctance of Russia to lend their support for a full investigation of the air accident and to pursue the perpetrators, as well as concerns that Moscow is stepping up its intervention in Ukraine, have prompted the US and Europe to put aside their differences and agree sharply escalated and joint economic sanctions against Russia. The package of measures targets Russia's financial, energy and military sectors. Brussels does make the proviso that the latest round of sanctions should not affect current energy supplies and that the measures should be reversible. However, they would delay major new energy projects such as the South Stream pipeline to bring Russian gas into Europe along a southern route and the Yamal LNG project in the Russian Arctic, the go-ahead for which was recently agreed. The decision by the US and Europe to press ahead with these punitive measures on a united front raises key questions, not least of which is, will the sanctions work? Following on, will Europe be able to get by if Russian pipeline exports of gas are halted, and what will happen if the prestigious Yamal LNG scheme does not proceed?

The country currently has one LNG export project in operation. This is the two-train Sakhalin 2 plant on Sakhalin Island in the Russian Far East which exports LNG to customers in nearby Japan, Korea and China at a rate of 10 million tonnes per annum (mta). Yamal LNG is an entirely different proposition, and not just in terms of scale. The USD 27 billion project calls for the construction of three trains with an aggregate capacity of 16.5 mta, with output from the first train scheduled to reach the market by 2017. Sales contracts have been agreed for the bulk of the production. Yamal is extending the LNG industry's technology envelope in a major way and Russia had been anxious to bask in the accolades that will attend project realisation. Because the waters around the Sabetta terminal will be ice-covered for all but a few summer months, a fleet of 16 icebreaking LNG carriers as well as 10 further LNG shuttle tankers are needed to service the scheme. The first 10 of the icebreaking LNGCs, which each cost USD 315 million, have recently been ordered at the Daewoo yard in Korea. They are the industry's first icebreaking LNG carriers. The Sabetta plant and the newbuilding vessels are being constructed according to a tight timetable to ensure the contracted completion dates are achieved. The ice cover restricts the time that plant and equipment can be delivered to Sabetta, so much of the fabrication work is being completed in modular fashion in more hospitable locations. This means that the delivery of the fabricated units and their hook-up at the site must be carefully coordinated within the short timeframes available. Looking at the bigger picture, Russia is the world's largest exporter of natural gas and second largest exporter of oil. Together the two fuels account for almost 60% of the country's export earnings. Gazprom, the state gas company, supplies 30% of Europe's gas, via pipeline, and one-half of these deliveries transit Ukraine. Gazprom has issued scarcely veiled threats that its gas exports to Europe will be affected if sanctions are expanded. Ukraine itself is heavily reliant on Russian pipeline gas and these shipments are likely to be the first to be curtailed if the dispute escalates. In such a scenario Europe, with a key source of its own gas supplies in jeopardy, would feel obliged to assist neighbouring Ukraine and try to find some additional supplies of gas which it could despatch eastwards. In one sense some of the pressure on Europe has been eased in recent years due to the reduced demand for gas. The region's long-running economic recession has taken the bottom out of the gas market.

The downturn in European gas demand coincided with the earthquake and tsunami in Japan in March 2011. Overnight, with the shutdown of all its nuclear reactors, Japan's need for imported LNG jumped by 17 mta and the price of gas in Asia skyrocketed. European utilities were content to let the cargoes that had been earmarked for them sail on long voyages east to Japan where they fetched much higher spot market prices. The LNG seller and ship owner camps have been particularly happy places in recent years. In 2013, all nine European countries that import LNG suffered declines in the volumes purchased. European LNG imports fell to an aggregate 33.9 million tonnes, 28.5% down on the previous year. The performance continued a trend because in 2012 European LNG purchases had slumped 27% compared to 2011, when 65 million tonnes of LNG was shipped to Europe. Returning to Russia, a quick look at that country's own struggling economy, with its heavy reliance on energy exports, would seem to indicate that a quick resolution of the current set-to with the West is in the country's best interest. Oil and gas output is faltering and access to western capital and technology is needed if the next tranche of oil and gas fields, in more remote, less hospitable locations, is to be exploited. The confrontation has highlighted the extent to which Europe is reliant on imported energy. As indicated, there will be scope for one source of imported energy – LNG – to be stepped up in the years ahead, as the myriad of new liquefaction plants now under construction and in the final planning stages come on stream. Europe already has ample LNG receiving terminal capacity in place. The recently announced proposals for LNG export terminals in eastern Canada and the latest additions to the list of 25-plus US LNG export schemes may have sounded like pie in the sky just a few months ago. Now, in the aftermath of the loss of flight MA17, there are bound to be a number of European gas utilities paying much closer attention to such offerings. Over the longer term Europe's energy planners, both at national and regional level, should no doubt be working on some coordinated plans that incorporate major commitments to nuclear power, shale gas and renewables, along with the associated distribution infrastructure. In the meantime LNG stands poised to step into any breaches which may be caused by interruptions in the supply of Russian pipeline gas. The ability of LNG to ride to the rescue will be greatly enhanced from 2015 onwards when the next wave of Worldscale LNG production plants begins coming on stream. **Editor's Note: Mike Corkhill** is a technical journalist and consultant specialising in oil, gas and chemical transport, including tanker shipping and chemical logistics. A qualified Naval Architect, he has written books on LNG, LPG, chemical and product tankers and is currently the Editor of LNG World Shipping.

Source: BIMCO

**Inséré le 22/08/14 NIEUWS HISTORIEK HISTORIQUE Enlevé le
22/09/14**

A Printer comes to Port

**Wharves, Markets, Pilotage, Publishing Commence in
Thriving Old New York**

By almost all criteria of the times, The Port of New York was a boom town in the 1690's. The port's four monopoly and its still flourishing beaver trade assured it of commodities for export.

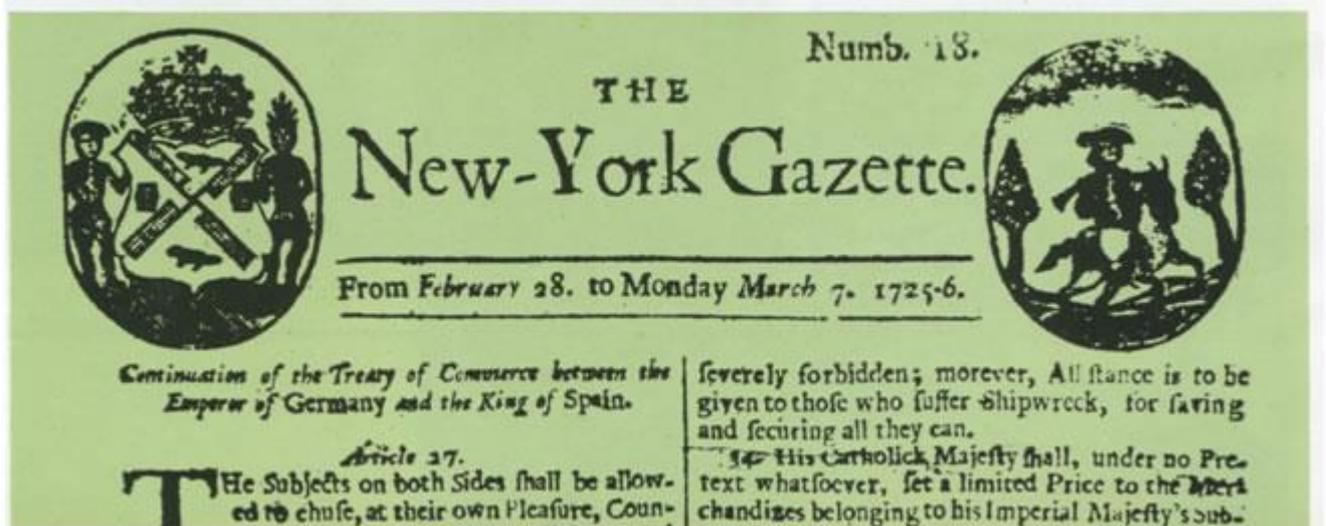
Trade with the West Indies thrived. The Crown's encouragement of privateering and Governor Benjamin Fletcher's hospitality toward well-behaved pirates assured the port a constant flow of high-value imports, both for home consumption and resale in other colonies.

Heavy imports from the home country kept the British content with their subjects in America, while Britain's minimal policing of its restrictive trade regulations kept New Yorkers contented and loyal subjects. The New York ladies rustled in silks and taffetas. The rich merchants and lawyers wore brocaded vests and sported silver buckles on their shoes. The money flowed in.

The port still had only one official public dock — the Great Dock built with public funds on the East River at the foot of Broad Street. But already waterfront landowners north of the dock on the East River were building small wharfs to accommodate their own vessels and those of their friends. So many merchants took to evading public dockage charges by running into these privately owned wharfs that the Common Council in 1694 passed an ordinance requiring that ail "must pay the Same Rates as if They Came into the Citty Dock and to be for ye benefitt of the farmer [lessee] of the Said Dock." Needless to say, this ordinance was hard to enforce, as many a dock farmer was to complain.

Private development of the waterfront was inadvertently encouraged both by the Dongan Charter of 1686 and a subsequent charter authorized by Governor John Montgomerie in 1731. The first gave the small "Citty" title to all public lands within city boundaries down to low water mark on either side of the island. This land the Mayor and Common Council were free "to Demise, Grant, Lease, Sett over, Assign and Dispose of" as they jointly saw fit. The second charter extended the city's title and its rights of disposal 400 feet further into the East and North (Hudson) Rivers.

William Bradford's New York Gazette, first newspaper in the province, had grown to four pages by March 7, 1726.



Almost immediately the small city began to sell off public lands whenever it needed money for public purposes. East River frontage was prime land. Before too long, almost ail of it up to Beekman's Slip and beyond was in private hands. Waterfront prises ranged from one pound per running foot for land nearest the Great Dock to about 15 shillings a frontage foot for lots further up river near Beekman's Swamp. Buyers also were required to make certain specified improvements. In addition to "filling up and Levying ail vacant holes. and Spaces" on their new property, for example, the purchasers of one extended stretch along Dock and Queen Streets (now Pearl Street) were required

in 1692 to build their own wharfs according to strict specifications — 30 feet broad, laid to low water mark.

Only the East River slips at the foot of major crosstown streets remained in city hands. During the prosperous 1690's sizeable public markets were beginning to grow up around these slips — a meat market at the foot of Wall Street; a fish market at the foot of Smith (now William) Street; and a fish, fruit and vegetable market at Coentie's Slip. Farmers from Long Island or further upriver brought their produce to market by boat.

"Carmen," the truckers of the day, helped deliver produce to those who had come to buy. The carmen had a second duty — keeping the dirty streets clean and removing the garbage. By custom and convenience, they dumped the town's refuse into the most accessible spot — down toward the slips and into the East River. In a remarkably short turne, the combination of dock trash, street dirt, silted river mud and dumped garbage resulted in the creation of new land. Dock Street and its extension, Queen Street, no longer fronted on the river but onto new waterfront blocks (see 1730 map at right). The land-sale process continued, with Dock and Queen Street property owners now given first option to buy, upgrade and build on the plots in front of them.

Shifting river silt and sands presented a different challenge at the mouth of New York Harbor by Sandy Hook. In 1694, following severe easterly storms which made passage into the harbor treacherous, the Provincial Council passed "An Act for settling Pylotage for all Vessels that shall come within sandy Hook." This required that a pilot "shall constantly attend at some convenient place near the Hook with a boat to give aid and assistance to all Vessels bound for this Port which they are obliged to pilot up as far as the narrows."

This service was to be neglected and revived several times in the decades to follow, but unquestionably the origin of the Sandy Hook pilots dates from this ruling. How those early pilots handled Governor Fletcher's pirate friends and the rampant smuggling of the day is not recorded.

A few years after the Sandy Hook pilotage legislation, another precedent-setting act was passed. "The great Inconveniency that Attends this Citty being A trading place for want of having lights" in 1697 prompted the Common Council and Mayor to order that lanterns be placed in front of every seventh house and lighted every night that there was no moon.



By 1730, date of this map, New York City was reaching toward High Road to Boston — now Park Row.

Perhaps Governor Fletcher's most significant legitimate act in the long run was his introduction of publishing to the small-but-thriving Port of New York. One of the new governor's first moves in 1692 was to visit Philadelphia in an effort to extend his Crown authorized authority to the colony of Pennsylvania. He didn't succeed. The Crown ultimately sent another governor to rule the Pennsylvanians. But while he was there, he presided over the trial of one William Bradford, a young

Englishman who had been serving as official printer to the Quaker-dominated colony.

Bradford had been jailed for printing a pamphlet which charged that Philadelphia's Quakers had compromised their principles by helping capture a privateer. With Fletcher's help, the young printer was acquitted. Shortly thereafter, when he learned that continuing Quaker displeasure was prompting Bradford to return to England, Fletcher invited the printer to move his shop to New York instead.

Bradford accepted the invitation with alacrity, setting up his print shop in 1693 "at the sign of the Bible," now 81 Pearl Street. Unquestionably his move was a wise one. As Royal Printer he published the minutes and reports of both the Provincial and the Common Council, as well as official acts, proclamations, survey reports and the like for a salary of 40 pounds a year.

In addition, his shop turned out a wide variety of flyers, broadsides and almanacs, as well as a popular and often-revised book on manners for young gentlemen. The map of New York in 1730, now one of the most cherished items in the vast collections of the New-York Historical Society, is one of his latter-day efforts.

An early effort was his publication, on the order of Governor Fletcher, of a 1696 issue of the London Gazette containing news of the current war with France. Not until 1725, however—long after the days of Fletcher —was New York to get its own newspaper. Then, Governor William Burnet, seeking colonial support for that decade's war against the French, ordered Bradford to bring out the weekly New-York Gazette as the official organ of the government. Bradford's first issue, meager two-page publication that it was, nevertheless paved the way for later editors one day to build New York's unparalleled publishing and communications industries.

Bradford himself apparently remained content to let his paper reflect the policies of the government. No doubt the aging printer's early experiences in Philadelphia had taught him a bitter lesson. Proclamations, broadsides, official records, almanacs and the weekly Gazette, now a four-page publication, continued to roll off his presses until 1737. In that year, when Bradford was 72 years old, the appointment of Royal Printer was passed on to a former apprentice of his, a German immigrant called John Peter Zenger, whose name was to become synonymous with freedom of the press.

Bradford himself continued to run his shop for several more years, then went into retirement. He died at 89 and was buried in Trinity Church Yard, where his remains lie today. An industrious man of his age, the old man had served little old New York well when the foundations of its future commercial endeavors were laid.

Inséré le 24/08/14 DOSSIER Enlevé le 24/09/14

The importance of BNWAS

As mandatory requirements for bridge navigational watch alarm systems (BNWAS) begin to be phased in over the next few years, recent accident reports have shown how this technology could offer a simple, yet effective way to prevent many maritime accidents.

The summer of 2013 marked the first anniversary of the introduction of mandatory fitting requirements for bridge navigational watch alarm systems (BNWAS) on certain types of vessels.

On vessels of 3000GT and above, all new and existing ships built on or after 1 July 2002, in accordance with the amendments made to SOLAS Chapter V Regulation 19 through the IMO's

Marine Safety Committee resolution 282(86), were required to have a system installed by 1 July 2012.

A BNWAS is an onboard alerting system which monitors bridge activity to detect operator incapacity. An OOW is required to either reset the system regularly or operate navigation equipment within certain time intervals. If the system is not reset as required, visual and audible alarms are generated on the bridge.

If the OOW does not respond, the alarm is transferred to other areas of the vessel to notify crew members of the OOW's incapacity.

The potential safety benefits of such a system are obvious, in making sure that an active and attentive watchkeeper is present on the bridge at all times – and the potential consequences of not having this technology available is clearly illustrated in some recent accident investigation reports.

The excellent reports produced by the UK's Marine Accident Investigation Branch (MAIB) have recently included the cases of the vessels Coastal Isle (Marine Casualty Report No 9/2013) and Beaumont (Report No 14/2013), both of which were involved in groundings that could have been prevented if an operational BNWAS had been in place.

Coastal Isle

As reported by MAIB, on 2 July 2012, while on passage from Belfast to Greenock, the 89m feeder container vessel Coastal Isle ran aground on the Island of Bute. The grounding resulted in significant damage to the forward section of the vessel, including minor breaches to the forward ballast tanks.

At about 0240 the chief officer, who was on watch at the time, had dismissed the ordinary seaman who was on lookout duties; shortly afterwards he left the bridge himself. The bridge was unmanned from that time until the vessel grounded at 0443. The chief officer was subsequently found in his cabin.



The Coastal Isle also ran aground, on the island of Bute. Photo: MAIB

The vessel had two independent bridge watch alarms, which should have warned of the fact that the bridge was not manned for this period, but neither of them was in use at the time. The power to the voyage data recorder had also been switched off

nearly two weeks before the accident.

The prescribed performance standard for BNWAS requires that it should have three modes of operation: 'manual ON (in operation constantly), 'manual OFF' (does not operate under any circumstances) and 'automatic' activation based on input from the vessel's heading or track control system.

It is also required that access to the system be password protected, with the password available to only the master.

The MAIB report notes that Coastal Isle had installed a new BNWAS system from Martek Marine on 14 June 2012, called Navgard, which complied with the BNWAS requirement. However, during installation, the terminals for connecting to the autopilot system could not be identified and therefore the BNWAS could not be set up to work in the automatic mode.

The master on board at the time of the accident did not know how to switch on or set the system. His predecessor had received instruction from Martek Marine technicians when the system was commissioned, but these had not been passed on.

After successful commissioning, the system was not turned on and the original, default password set by Martek Marine was never changed.

The MAIB carried out function tests of the system and established that it worked correctly in both the 'manual ON' mode and the 'manual OFF' mode.

Coastal Isle was originally fitted with a watch alarm that could be set to give an alarm after 1.5min, 3min or 12min of dormant time.

MAIB notes that it was a simple on / off system that had no facility to operate automatically. When the system was switched on, the watch alarm sounded on the bridge after the set dormant time; if not cancelled within a certain time, the general alarm would sound.

At the time of the accident, this system, although fully functional, was switched off. There were no written instructions on board concerning its use; it was left to the watchkeepers to use it at their discretion.

As MAIB describes it, after the lookout was dismissed, the chief officer was alone on the bridge and he could have then switched on the vessel's original watch alarm as protection against the hazards of single watchkeeping; however, he chose not to use it.

In addition, the new BNWAS compliant watch alarm, though functional, was not switched on after it was installed. Both watch alarms were capable of warning the rest of the crew if the bridge watchkeeper was absent or asleep; MAIB says that, had either been in use, this accident probably would not have happened.

MAIB also notes that it was not possible to determine exactly why the original watch alarm was not used, but it was considered most likely that it was used so infrequently it had been forgotten.

In light of these circumstances the report's conclusion is that the Coastal Isle ran aground because there was no one on the bridge to correct the vessel's heading when it was set off course, and had either of the watch alarms on the bridge been switched on, the absence of the bridge watchkeepers would have been detected and this accident could have been avoided.

To try and stop this kind of incident reoccurring the vessel operators have now connected the new BNWAS to the autopilot system and set it up so that the password is available only in offices on shore.

Beaumont

The lack of an operational BNWAS was also a key factor in the grounding of the 2545gt dry cargo vessel Beaumont, which ran aground on Cabo Negro on the north Spanish coast while on passage from La Coruña to Avilés at 0308 UTC on 12 December 2012.

According to MAIB's report on the incident, *Beaumont* was sailing with the minimum permitted safe manning of six. The vessel's two navigating officers, the master and chief officer, shared navigational watches equally, with the master on watch between 0600 – 1200 and 1800 – 2400.



The Beaumont ran aground on Cabo Negro. Photo MAIB

Following his handover to the master the chief officer went below and, at around 1900, went to bed. By that time the deckhands had completed their preparation of the cargo holds and at about 1930 the master's night lookout (deckhand 1) joined him on the bridge.

During his watch the master monitored *Beaumont's* progress along the navigational track using an electronic chart system (ECS), and he plotted the vessel's position on the paper chart used for navigation every two hours. The vessel's course was maintained by an autopilot.

Two radars, one of which was set on the 6 mile range scale and the other on the 12 mile range, were operational but no guard zones had been set. An onboard echo sounder was not switched on, nor, crucially, was the installed BNWAS.



The BNWAS control panel on the Beaumont – the system was not switched on. Photo: MAIB

At about 0055, MAIB notes that the chief officer was required to call the Avilés pilot to provide information about *Beaumont's* expected arrival time, but it slipped his mind.

Around 0130, the chief officer, like the master before him, sent his lookout below to rest in the mess deck. When deckhand 2 left the bridge, the chief officer was seated on what MAIB describes as a "comfortable port side bridge chair" and the starboard bridge wing door was about 75mm ajar.

At 0308, *Beaumont* ran aground on Cabo Negro, at a speed of 11.5 knots.

Following the accident, MAIB reports that the chief officer recalled attempting to call the Avilés pilot at 0155 and again shortly after 0200, receiving no reply, though no calls from *Beaumont* were heard by Avilés pilot station.

The vessel's position at 0200 was recorded on the chart,

and the report says that the chief officer thought he fell asleep shortly after 0200.

Following the grounding the master ran to the bridge, where he found the chief officer still asleep. He roused him and simultaneously placed the engine control to neutral.

The chief officer awoke confused and was shocked to find that the ship was aground, though MAIB notes that there was no indication that the chief officer was under the influence of alcohol or any other narcotic. MAIB's analysis of the incident suggested that the chief officer fell asleep on watch due to lack of stimulation and probable fatigue.

Lack of stimulation occurred as a result of being alone in a quiet, cosy bridge environment where none of the available safeguards had been utilised. The chief officer's fatigue would appear to be a result of the change to his pattern of work and rest on the day preceding the grounding.

MAIB suggests that it is likely that the chief officer fell asleep within two hours of taking over the navigational watch from the master.

Situations such as these precisely demonstrate the reasoning behind the introduction of BNWAS, a simple technology that should have quickly identified the fact that there was nobody on the bridge keeping an attentive watch.

While Beaumont was equipped with a BNWAS, specifically designed and fitted to alert or draw attention to an incapacitated OOW, the vessel's managers did not specifically require the BNWAS to be in operation at sea.

Consequently, as MAIB notes, it was seldom, if ever, used by the bridge watchkeepers.

In addition to BNWAS, MAIB's analysis points to the other navigational aids fitted on the ship also featured with alarm functions that, if used effectively, could have provided additional stimulation to prevent the chief officer from falling asleep.

Both radars had guard zone facilities which could have been set to alarm if targets such as land or vessels came within a predetermined range.

The echo sounder, which the SMS stipulated was to be used, was not switched on. It too had an alarm function which could have been set to activate if the under keel clearance reduced to less than a predetermined setting, as it would have done as the vessel approached the shore.

The ECS's cross-track error facility detected when the vessel strayed more than 1 cable distance from her planned route, prompting audible and visual alarms. The ECS alarm was sounding and flashing at the time of the accident but the volume had been adjusted to render it barely audible.

MAIB's report concludes that, in light of these facts, the vessel operator should have required the appropriate use of navigational aids and ensured that the BNWAS was operational at all times while at sea, to ensure that all the available safeguards for maintaining a proper watch were in place.

Consequently, the shipping company has now revised its SMS to require the use of BNWAS when vessels are underway and, where technically possible, linked BNWAS systems with autopilots so that the watch keeping alarm is operational whenever the autopilot is in use.

Conclusions

The two MAIB reports described above cover just two incidents within six months of each other where the application of simple technology systems could have prevented costly accidents.

There are undoubtedly many more similar cases around the world that would further demonstrate the benefit of having a system like BNWAS installed on board a vessel.

By this time next year, in July 2014, all cargo vessels over 150 gt will be required to have a BNWAS in place by the time they are presented for their next annual survey.

Hopefully, more widespread use of the technology will prove to be a significant step forward in reducing the frequency of accidents such as those that occurred to the Beaumont and the Coastal Isle. DigitalShip

Inséré le 26/08/14 NIEUWS NOUVELLES Enlevé le 26/09/14 Costa Concordia captain's lecture sparks outrage

The captain of the sunken Italian cruise ship, the Costa Concordia, has sparked outrage after it emerged he delivered a lecture to university students on best emergency practices. Italy's education minister said the decision by a Rome university professor to invite Francesco Schettino to speak at a seminar was "disconcerting". Mr Schettino is currently on trial for manslaughter and abandoning ship when the luxury liner sank in January 2012. Thirty-two people died in the incident. The former captain denies that he left the luxury liner after it hit a reef near the island, before 4,229 people on board were taken off.

Panic management

The Concordia Captain gave a two-hour lecture to criminal science postgraduate students of La Sapienza university last month, Italy's La Nazione newspaper reports. "I was called to speak because I am an expert. I had to talk about panic management," Mr Schettino was quoted by the paper as saying. He said he had used a 3D model of the Costa Concordia cruise liner to demonstrate how emergency evacuations were carried out. The decision to invite the former captain to speak was condemned by the university's dean, Luigi Frati, who said he was unaware it was taking place. He called it an "inappropriate and unworthy choice" of speaker. The professor who arranged the lecture, Vincenzo Mastronard, is currently facing a disciplinary hearing, the university said on Wednesday. However, Mr Mastronard is quoted by Italy's La Repubblica newspaper as saying that the event was "reserved for experts" and that he would clear up any misunderstanding with the university. The 290m-long Costa Concordia - which is longer and heavier than the Titanic - was towed in July to the Italian port of Genoa to be broken up for scrap after a two-year salvage operation. Mr Schettino has already accepted some degree of responsibility, asking for forgiveness in a television interview as he talked of those who died. He maintains that he managed to steer the stricken vessel closer to shore so it did not sink in deep water where hundreds might have drowned. Source : bbc

Inséré le 26/08/14 BOEKEN LIVRES Enlevé le 26/09/14

Floating boxes service our malls

DEEP SEA AND FOREIGN GOING: INSIDE SHIPPING, THE INVISIBLE INDUSTRY THAT BRINGS YOU 90% OF EVERYTHING

By : Rose George Portobello. 320pp. \$35. When my father ran away to sea he was just 15 years old. Family legend has it that he waited until his widowed mother was befuddled by anaesthetic after a minor operation before he got her to sign the necessary papers. She didn't see him again for a

fortnight, by which time he had a union card and two weeks' wages in his pocket. My pragmatic grandmother, battle-scarred by the Great Depression, knew a good deal when she saw one. In Christchurch in 1944 a pound in your pocket today was considered more important than the prospect of a Leaving Certificate tomorrow. My father stayed at sea for the next 15 years, and didn't "come ashore", as they say, until he married my Australian mother and moved to Sydney. The journalist **Rose George** ran away to sea for five weeks in 2012 to write a book. She sailed on the Danish-owned container ship **MAERSK KENDAL** from Felixstowe in Britain to Singapore via the Suez Canal, a voyage of over 9000 nautical miles: "Six ports, two oceans, five seas". When **George** finally came ashore she had gathered in her notebooks the fascinating story of what she calls our collective "sea blindness"; how the impact of modern-day shipping is hidden in plain sight. Despite having made the world's globalised economy possible, the international shipping industry is pretty much taken for granted. Even the most obtuse consumers know that the cheap T-shirt on their back comes from China or Bangladesh, but how many stop to consider just how it got to their shopping bags in the first place? In many ways the shipping industry hasn't changed that much since my father went to sea. Working conditions on board are still pretty tough, with high stress, long hours and dangerous conditions. As even the well-paid captain of the **MAERSK KENDAL** often tells **George**, "The merchant navy - we're the scum of the earth." The single biggest difference between the life at sea described by **George** and the one my father experienced are the boxes.



Back in 1956 an American trucking entrepreneur named **Malcolm McLean**, in conjunction with the engineer Keith **Tantlinger**, invented the

system of standardised containers that now dominates the world's major ports. At any one time there are 20 million of these "boxes" on the move across the world's oceans and waterways. The container system is so economically efficient, according to **George**, "that it makes more financial sense for Scottish cod to be sent 10 thousand miles to China to be filleted, then sent back to Scottish shops and restaurants, than to pay Scottish filleters". That's not madness, she comments, that's just shipping. Thanks to McLean and Tantlinger, "a sweater can now travel 3000 miles for 2.5 cents; it can cost a cent to send a can of beer". It's not just the sweatshops of Asia that make the stuff we buy so cheap. Fully loaded, the **MAERSK KENDAL** can carry just over 6000 six-metre containers. The multicoloured boxes make it look like the ship is weighed down with a cargo of gargantuan Rubik's Cubes. Inside them can be just about anything - bananas, laptops, skipping ropes, submachine guns. If the **MAERSK KENDAL** ran aground on a desert island its crew could plunder those boxes and set up a functioning market economy in just a few days. Yet **George** finds the ship's captain and crew surprisingly incurious about the contents of the boxes in their care. Other than knowing which ones contain flammable products - and therefore might be dangerous - they have little idea what they're carrying, and no interest in finding out. What they're concentrating on is surviving.

Surviving the monotony of shipboard life; the monotony of shipboard food; the days measured out in 12-hour shifts and cheap DVDs.

Surviving the very real dangers of piracy off the Horn of Africa. Surviving the irritations and anxieties of low profit margins; tight schedules; and parsimonious landlubber managers. There are just 19 crew members on the **MAERSK KENDAL**. The captain is an Englishman from Yorkshire. The officers come from all over - Britain, India, Eastern Europe - while the crew is exclusively Filipino. And they're all just doing it for the money - even **Captain Glenn**, whom George grows to admire immensely as the voyage goes on. The captain is a sailor of the old school, still capable of navigating with a sextant; old enough to remember when there was romance in the act of casting off. Now he's **shipwrecked by paperwork** and can barely get away from his computer terminal to pace the bridge. Though only a mid-size container ship, the **MAERSK KENDAL** is still four storeys high, the equivalent of three football pitches long, and powered by engines as big as a suburban house. And the future is only going to get bigger - and cheaper. **Maersk Line**, the owner of the ship, makes a whopping \$60 billion a year in revenue and still isn't satisfied. The massive shipyards of South Korea are turning out a fleet of Triple E class container ships: the biggest ships ever to set sail. A third longer than Kendal, and capable of carrying three times as many containers, these leviathans of commerce will reduce shipping costs by 20 to 30 per cent. My father used to tell me stories of travelling the South Pacific to places like Western Samoa where, as a young man, he could take enough shore leave to climb Mount Vaea and visit the last resting place of Robert Louis Stevenson. There's no time for excursions like that any more. Nowadays even the world's largest container ships can be in and out of port in just 24 hours. Modern sailors joke sardonically that they're just salaried inmates on a floating prison. It can't be denied: the world's T-shirts are cheaper, but life on the ocean waves ain't what it used to be.

Source : theage.com.au

Inséré le 28/08/14 Dossier Enlevé le 28/09/14

'Moving fast to meet requirements' - ECDIS updates from Japan

The first of July 2012 marked the beginning of a new era in shipping, as the first deadline for the compulsory carriage of ECDIS passed. ECDIS is now mandatory on new passenger ships over 500 gt and new tankers over 3,000 gt. The legislation will be phased in by ship type and size to apply eventually to most large merchant and passenger ships by 2018.

To deliver the safety benefits of the new technology, every ship navigating with ECDIS requires a crew which is confident in its use. Bridge officers are required by STCW (Standards of Training, Certification & Watchkeeping) to be competent to carry out their duties, so the ECDIS Mandate effectively makes ECDIS training compulsory too.

This represents a significant challenge for the industry; between 140,000 and 200,000 deck officers are estimated to require training in the next six years.

To help shipping managers understand the scale of the challenge, Admiralty has been running a series of Digital Integration Workshops at industry events around the world to offer insight into the process of achieving ECDIS compliance.

The Workshop has been developed by the Admiralty team in conjunction with Captain Paul Hailwood, an expert in ECDIS compliance.

At a recent Workshop held at Sea Japan, Capt Hailwood came across many familiar issues, but one which perhaps he hears more than most: "I spend a lot of time taking owners through the things that they need to consider and every single company has sat up and thought 'oh, we really are short on time!'"

Capt Hailwood stresses the importance of starting preparations as early as possible, and recommends that once a company has established flag state requirements, its first internal process should be to conduct an initial risk assessment.

The assessment should look at the impact that ECDIS will have throughout the company based on fleet profile, routes, owned or operated tonnage, compatibility, chart supply and the potential timescale for installation and testing.

To help shipping managers effectively plan for this process, Capt Hailwood, in partnership with the Admiralty team, has developed a series of 9 stages for ECDIS compliance as part of the Workshop, and each is based on the experience of companies that have been through the process.

At Sea Japan, NYK and MOL were kind enough to talk to Admiralty in detail about their work towards compliance, and the case studies below should give you some guidance on what to consider during your own planning.

NYK Line

NYK Line has accumulated a decade of experience in digital navigation, having installed its first shipboard systems in 2002. The NYK Line owned fleet currently numbers 300 vessels with another 800 operated on charter. By the end of May 2011 more than 200 of its owned vessels were fitted with ECDIS, however almost all of these are still using paper charts for primary navigation, with ECDIS providing situational awareness.



NYK already has more than 200 ships fitted with ECDIS

The manager of NYK Line's marine technical team, Noboru Shiomoto, explains: "Within our owned fleet, 10 vessels are fitted with dual ECDIS and these already use ENC's for primary navigation."

"We have plans to install dual ECDIS on another 100 vessels over the next two to three years. So we are moving very fast to meet the

requirements of the ECDIS mandate."

Capt Shiomoto explains that the transition has presented some challenges.

"We are fully engaged in this process but because we are in transition phase from paper to digital charts, we are facing an increase in cost and workload while we transfer fully to ECDIS," he said.

NYK Line uses the Admiralty Vector Chart Service to manage its ENC's. Feedback from ships using ENC's has been that electronic chart correction is much faster than paper chart correction and the company plans to enhance this process by using the Admiralty Information Overlay.

The Overlay includes worldwide Temporary and Preliminary Notices to Mariners as a layer directly over the ENC.

Capt Shiomoto notes that NYK's crews have reported a very positive experience using ECDIS so far.

“There are so many advantages, for example chart corrections, which are far simplified, but the real differences come from knowing your location as you navigate, so you can make sure you are always operating safely,” he said.

“Previously we navigated using GPS and onshore targets, but where ECDIS is installed we can use real-time GPS to look ahead so we have a better understanding of our surroundings and can maintain a safe voyage.”

He also cites the ECDIS anti-grounding functionality, which he says means the company can expect a reduction in accident risk in the future.

“The main purpose of our introducing ECDIS is not just to meet regulatory requirements. These are important, but we strongly believe that ECDIS is an effective tool to prevent collisions and improve safety of navigation,” said Capt Shiomoto.

Given the high volume of NYK Line officers to be trained, the company is fortunate to be able to take advantage of its own in-house training facilities.

NYK’s ship management subsidiary in Singapore launched its own generic and type specific ECDIS training in July 2011 at a facility with five ECDIS simulators. The centre has so far trained 350 officers, and Capt Shiomoto says it will continue to train a further 400 to 450 officers per annum.

Mitsui O.S.K. Lines (MOL)

MOL has used a combination of ECDIS and Electronic Chart Systems (ECS) on its owned fleet since 2006. The process which it will adopt going forward will be a complete move from unofficial ECS to ECDIS.

This process is made somewhat complicated by the fact that MOL is both ship owner and operator. Currently MOL owns 310 ships and has an operated fleet of a further 950, which means it must monitor the progress of its owners in complying with the IMO mandate.

Takaaki Inoue, executive officer responsible for safety operations for MOL, explains: “For the chartered ships we will see how their owners respond. We will observe what the shipowners do and how they are intending to introduce ECDIS.”



MOL training superintendents travel to the ships to give ECDIS instruction onboard

“We make regular inspections of chartered tonnage, we visit and confirm that the vessel is compliant. We don’t make direct enquiry but we check the status on an individual ship basis.”

Of MOL’s owned fleet, Mr Inoue notes that almost all have ECDIS installed, and he says there is no distinction by ship type in terms of priority for moving to digital navigation. At present, the skillset remains with the paper charts that seafarers have used for many years.

“Changing the mind set of elder seafarers will be a key challenge but this is also true for the younger ones,” he said.

“We need to convey the spirit of the change; simply sending a document out to the fleet to be shared is not an effective method of communication for the younger generation. It must be conveyed onsite through the experience of a respected and trusted captain.”

To address this need, MOL uses training superintendents, who provide on-the-job training and are regularly dispatched to the ship to give ECDIS instruction to junior officers.

In terms of classroom training, his department’s focus is on ensuring adequate capacity. He says some 2,700 MOL masters and officers need to be trained, of which 800 have already completed generic training.

Mr Inoue explains that the requirement to satisfy type-specific training is a big challenge.

“It’s a problem mostly because there are so many different designs of ECDIS available,” he said.

“We have to involve the manufacturers in the process but the functionality is so different between them. We need to have a basic design or agreed standard. As a user I feel if we could do that it would accelerate our maturity with existing devices and make the process easier.”

Mr Inoue says he doesn’t expect to see a big change in terms of operating procedures when MOL replaces paper with ENCs. But he does expect the availability of the latest updates and overlays to improve safety of navigation.

“Reducing the workload means officers can concentrate on the lookout. Maintaining a good lookout by every possible means is the most important contribution to safety of operations,” he said

Conclusion

With one ECDIS deadline already passed, companies will be starting to feel the pressure, but the worst thing that owners could do is rush ECIDS implementation.

Moving from paper charts to digital navigation is not just a process of swapping one source of content for another; navigating with ECDIS is fundamentally different to navigating with a paper chart.

If the display and the ECDIS settings are not fully understood, then the chart display can be misinterpreted and in the worst case the safety of the vessel compromised.

The advice is to start ECDIS implementation as soon as possible, be methodical and thorough in your preparations and learn from those that have already been through the process.

DigitalShip

About the Author

Guy Edwards is head of Admiralty Asia Pacific, based in Singapore. The Admiralty ‘Are you ready for the new ECDIS regulations?’ workshop has been designed to demystify many of the challenges of ECDIS implementation. It offers a simple checklist to kickstart planning and is also accompanied by a guide available on the Admiralty website.

Inséré le 30/08/14 NIEUWS NOUVELLES Enlevé le 30/09/14

For wandering tankers with \$300m of Kurdish crude, end-game still in doubt

By Jonathan Saul

After a legal show-down in Texas this week, the outlook for a handful of tankers holding some \$300 million worth of Kurdish oil is not looking good. Seemingly unable to find enough buyers willing to take a risk on million-barrel cargoes of disputed crude, the Kurdish authorities are paying over \$75,000 a day to keep all three far-flung vessels afloat. A fourth ship began filling up at a terminal on the Turkish coast on Thursday, potentially adding to the tally, Reuters reported. (Full Story) Unless they can seal last-minute discreet sales or reach some kind of deal with Baghdad over how to share oil revenues, experts say, chances are slim of unloading ships now dotted around the globe, from Texas to Malaysia. In total, they have already been at sea for nearly half a year. "There will not be many people who will want to take the cargo in circumstances where there is a dispute about the ownership of it," said Ben Knowles of law firm Clyde & Co. Iraqi Kurdistan is exporting crude oil independently of Baghdad in a bid toward seizing greater political and economic autonomy, in spite of Baghdad's protests that it has the sole authority to sell Iraqi oil.

"As long as the dispute is rumbling on, it would be very difficult for anyone to use the cargo because they will potentially face exposure if they do," Knowles said. Kurdistan's biggest U.S. buyer LyondellBasell LYB.N said on Thursday it will not buy any more of the disputed oil. In the modern maritime world, satellite vessel tracking technology and a globally networked shipping system make it nearly impossible for the Kurds to quietly unload the vessel at some remote port without the intervention of Baghdad, which says the oil has been illegally sold outside its control. The ships' fate grew dimmer on Tuesday after Baghdad won a U.S. court order to seize one of those tankers, the United Kalavrta, which had crossed the Atlantic to anchor a few miles off the port of Galveston at the weekend. While the Federal judge said she lacked jurisdiction as the tanker outside U.S. territorial waters, the message was clear. While shadowy traders or rogue nations may have been willing to take a chance with the oil in the past, at the right price, the cost of crossing Baghdad and irritating Washington is seen as too great for most global companies. And pariah states like North Korea lack the refineries necessary to utilize the crude. That does not seem to be stopping them from trying. One of the three vessels – still holed up in the South China Sea off Malaysia – has managed to offload part of its cargo onto another tanker, according to vessel-load data available on ThomsonReuters Eikon. The ship-to-ship transfer is a ploy also used by other countries, such as Iran in an effort to disguise the origin of crude, with moderate success. The partial sale is unlikely to alter the tough task ahead for the Kurds.

Even if the half-cargo gets sold, "the Kurds will get a lower price selling in this kind of way and won't be anywhere next to the market rates they want to achieve," said Richard Mallinson with consultants Energy Aspects in London.

"It has proved to be more difficult than they expected because Baghdad has used a combination of diplomatic pressure with governments it has relations with, legal warnings to potential buyers and the action with the tanker in the U.S. That will have sent a message to most buyers," Mallinson said. The Kurds have seized on recent sectarian chaos in Iraq to expand their autonomous northern territory to include Kirkuk, which sits on vast oil deposits.

ADRIFT

While the Kurdistan Regional Government (KRG) has been selling smaller piecemeal oil shipments on the international market since 2012, it only began larger million-barrel shipments out of its new pipeline in May. The pipeline started up in at the end of December and was pumping around 120,000 barrels per day to Turkey's Mediterranean port of Ceyhan until it was forced to halt flows last week due to storage tanks being full. Only one of five cargoes has been successfully delivered, to Isra el, which does not have diplomatic relations with Baghdad. Israel has said Kurdish independence in

northern Iraq was a “foregone conclusion.” Authorities in Baghdad generally turned a blind eye to the smaller sales, but the onset of direct exports by pipeline has drawn fierce criticism the central government. They have warned of potential lawsuits or legal action if anyone buys the oil, and filed suit in Federal court this week to block the United Kalavrvta from plans to offload its crude. As a result, the three tankers are scattered across the globe in limbo: one offshore Malaysia, another in the Atlantic Ocean off Morocco and the third some 60 miles (100 km) off the U.S. Gulf Coast. KRG's oil marketing team has been unable to successfully close full deals for them, according to industry sources. Another is scheduled to set sail from Ceyhan on Friday, Turkish energy officials said. It was unclear whether the ship has a destination. The loading will help drain oil tanks in the port, which have risen to full capacity. The tab thus far: an estimated \$5 million and rising, based on the cost of chartering the vessels for a total of 160 days at sea, shipping sources say. While not a large sum compared with the amount they could stand to make in profit from a sale, it adds strain to a cash-strapped government facing a funding hole. After the KRG completed the pipeline to Turkey bypassing the federal system, Baghdad cut the Kurds out of the budget at the start of 2014, forcing the northern region to take out large loans to stay afloat. At a London conference in June, Kurdish minister of natural resources Ashti Hawrami said the KRG had already borrowed \$1 billion internationally against future oil sales and another \$2 billion locally.

HARD TO BE STEALTHY

In prior decades, there was arguably more appetite for politically charged oil trading with countries such as the former Rhodesia and South Africa under apartheid. Players also made fortunes in the “tanker wars” of the 1980s during the Iran-Iraq conflict, when vessels risked missile fire to load and then transport crude oil cargoes from the conflict area.

While sanctions-busting sales still occur across the world these days, including to, or from countries such as Syria and Iran, they are less easy to hide.

Iran, for instance, had attempted to evade Western sanctions on its oil sales in recent years by changing the names and flags of its tankers, transferring crude to vessels at sea and finding middle men to facilitate deals on their behalf.

While some of those endeavors may have been successful, many were increasingly unearthed by media, including Reuters, who were able to track the tankers helped by so-called AIS transponders that broadcast their location in real-time.

Facing tougher commercial scrutiny, companies are more wary these days of dealing with disputed oil.

Disputes arise, stranding tankers. Two years ago, two tankers holding oil from South Sudan were held up for months in Asia due to a dispute over oil revenues between Sudan and its landlocked neighbor South Sudan. Sudan had seized the oil and loaded the consignments onto the tankers for what it called unpaid transit fees. The spat was resolved after both sides agreed that Sudan would pay back proceeds from the two oil shipments as well as reaching an accord over a metering system over oil exports. In 2011, a cargo sold by opposition forces fighting then Libyan dictator Muammar Gaddafi was stuck for weeks at sea near Singapore waiting for a buyer. The vessel managed to bypass a naval blockade around Libya, successfully load a cargo and sail before getting stuck until a sales deal with the rebels could be reached. Earlier this year, armed rebels from Libya’s eastern region, demanding autonomy from the central government and a greater share of oil, managed to load a tanker with oil and set sail in a bid to raise cash. The crew reported that they were held at gun point by the opposition forces. They didn't get far, however: U.S. special forces seized the vessel days later off Cyprus after Tripoli urged Washington to intervene. Shipping sources say that action was rare and the outcome of the Kurdish cargoes will most likely to be played out legally.

METER

RUNNING

As for the **United Kalavrvta**, it may now sit in the Gulf of Mexico indefinitely. U.S. authorities would only be able to act on the order if it comes within 12 miles of the coast, lawyers say. While the vessel could stay offshore for some time, at some stage it would need to refuel and also pick up supplies

such as food, which could create the possibility of a seizure in another jurisdiction, according to one shipping source. "For every day the dispute remains unresolved and the tanker carries the cargo, someone somewhere is going to have to be picking up the tab and these things are extremely expensive to hire," Clyde & Co's Knowles said. Meanwhile, so long as the bills get paid, it is business as usual for those responsible for the tanker. "It is not uncommon in our line of business for questions to arise over the ownership of a particular cargo," said an official with North P&I Club, ship insurer for the **United Kalavrvta**. Marine Management Services M.C., the Piraeus-based shipping company that manages all three tankers, did not reply to requests for comment on the United Kalavrvta.

Source : Reuters (Additional reporting by Julia Payne and [David Sheppard in Lo](#))

Inséré le 01/09/14 NIEUWS NOUVELLES Enlevé le 01/10/14

Suez Canal widening to begin this week

The Suez Canal's major deepening project is just over the horizon as crews will start widening and dredging a 34-kilometer strip in order to improve wait times for vessels using the canal. AsiaCruiseNews.com reported today that the long-awaited widening project could take years to complete, but dredging crews will begin within the next week. The canal's website says the dredging will take the canal from 48 feet to 52 feet. "This project will allow giant container ships heading south to pass through these channels and reduce ... total transit time," the website says. Currently, on a typical day three convoys transit the canal, usually consisting of two southbound and one northbound trip. It takes between 11 and 16 hours to complete the passage at a speed of eight knots. The Suez Canal has seen record traffic this year, partially because of delays and construction at the Panama Canal. For the first time, on all-water services from Asia to the East Coast, a greater percentage of the shipments will move through the Suez Canal than via the Panama Canal, according to Alphaliner. In May, the Suez Canal Authority reported 526 ships passed through the canal, up 6.9 percent from April's totals. The number of container ships passing through the Suez in May was the highest since May 2013, when 533 container vessels transited the canal. The ships are also larger than the vessels that make their way through the Panama Canal. Parts of the Suez are 66 feet deep and can accommodate vessels as large as Maersk's 18,270-TEU Triple E ships. In 2013, Drewry reported the average size of ships passing through the Suez Canal was 7,756 TEUs; the current maximum for ships using the Panama Canal is about 5,000 TEUs. **Source : JOC**

Tanker with Iraqi Kurdish crude cleared to unload cargo off Texas

A tanker carrying crude oil from Iraqi Kurdistan was cleared by the U.S. Coast Guard to unload its cargo at sea off Texas on Sunday as a State Department official signaled Washington would not intervene to block delivery of the controversial crude. Coast Guard officials went aboard the tanker **United Kalavrvta** on Sunday and verified the ship and crew's ability to safely offload the oil, a Coast Guard spokesman said. The ship set sail from the Turkish port of Ceyhan in June with a load of crude oil supplied by a new pipeline from the Kurdish oilfields. Trading sources in Texas, New York, London and

Geneva have been unable to identify the buyer of the **United Kalavrvta's** cargo. The oil could go to any one of the many refineries located along the U.S. Gulf Coast. The ship carries approximately 1 million barrels of crude, which would fetch more than \$100 million at international prices.

Sale of Kurdish crude oil to a U.S. refinery would infuriate Baghdad, which sees such deals as smuggling, raising questions about Washington's commitment to preventing oil sales from the autonomous region. The U.S. government has expressed fears that independent oil sales from Kurdistan could contribute to the breakup of Iraq as the government in Baghdad struggles to contain the ultra-hardline Islamic State, a group of Sunni Islamist insurgents who have captured vast areas of the country. But it also has grown frustrated with Iraqi Prime Minister Nuri al-Maliki's handling of the crisis. The tanker anchored on Saturday night in an area off the port of Galveston, Texas, where ships too large to transit the Houston Ship Channel offload oil to smaller tankers for delivery to the U.S. mainland. Throughout Saturday and Sunday, the Coast Guard was in communication with the U.S. National Security Council, and departments of State and Homeland Security, said Petty Officer Andy Kendrick. To deliver the crude the tanker only had to show it could do so in compliance with Coast Guard regulations, Kendrick said. "We didn't have any extra stuff to impose on them," he said. Crude offloading could begin as soon as the ship arranges a contract with a company that performs lightering, as the process is called, he said. Lightering, depending the size of the cargo, can take several hours and even days. Attempts to contact the ship's owner and the vessel itself were unsuccessful. A State Department official, speaking on condition of anonymity on Sunday because of the sensitivity of the issue, said officials were well aware the ship's location and cargo. "This is a private commercial matter," the official said. "Our policy has not changed. Iraq's energy resources belong to all of the Iraqi people. As in many cases involving legal disputes, the United States informs the parties of the dispute and recommends they make their own decision with advice of counsel." Washington has pressured companies and governments not to buy crude from the Kurdish Regional Government (KRG), but it has stopped short of banning purchases by U.S. firms. The KRG has renewed its push for an independent state amid the latest violence roiling Iraq. Its relationship with Baghdad has deteriorated over what it sees as Maliki's role in stoking the crisis and the long-running dispute over oil sales. Baghdad has threatened to sue anyone that buys Kurdish oil.

Source: Reuters (Additional reporting by David Brunnstrom in Washington, David Sheppard in London, editing by David Evans and Cynthia Osterman)

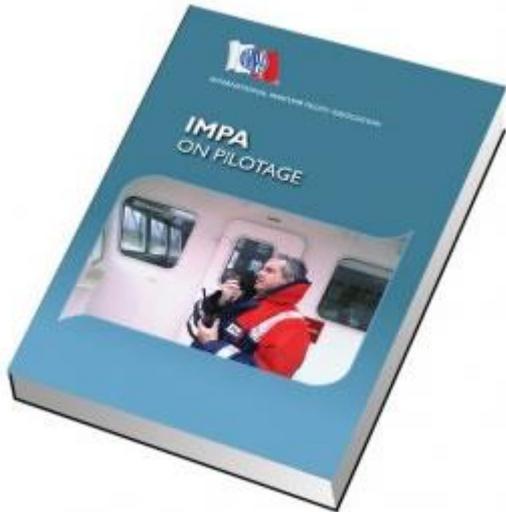
Inséré le 03/09/14 BOOK BOEK Enlevé le 03/10/14

IMPA on Pilotage

€94.68

(Excludes any applicable taxes)

This publication, compiled by the International Maritime Pilots' Association, brings together the experience and expertise of over 30 pilots and industry experts to produce a fascinating insight into the role of the marine pilot.



It starts with a brief history of marine pilotage, followed by an overview of the legislation governing pilotage and pilot liability. It then looks in detail at the practical aspects of pilotage, such as the master/pilot exchange, pilot transfer, shiphandling, vessel characteristics and interaction, fatigue management, and training and certification. It also discusses pilotage in different locations, including canals, straits, rivers and deep sea.

This 256-page book, illustrated throughout with colour photographs and diagrams, will be of benefit and guidance to pilots, both current and future, as well as to shipmasters and seafarers.

Customer Reviews

The Experts Guide to Pilotage Review by Lloyd's List

Lloyd's List Review

Saturday 28 June 2014, 11:00

By Michael Grey

The experts' guide to pilotage.

The Bosphorous Strait, Panama Canal and other waters make different demands on pilots.

Veterans offer valuable insights and guidance on a profession that faces many hazards.

ONE of the problems of 21st century maritime life has been the attempt to reduce virtually every operational function to a set of procedures.

It is a characteristic of our risk-averse society, which cannot tolerate the thought that there might be certain things done on board ship that might rely more upon immeasurable phenomena such as seamanship or judgement. Procedures and regulations are regarded as essential for the subsequent inquiry and trial, should matters go wrong in the wild, dynamic environment afloat, when, with the perfect judgement of hindsight, those responsible can be suitably judged.

One area that tends to defy all attempts to boil it down to a set of standard procedures is the handling of ships in confined pilotage waters.

Sure, there are now earnest requirements about berth-to-berth passage planning, and the suitable information exchange between master and pilot when the latter boards.

There is all manner of guidance about the bridge team — and how often is this a lone exhausted and preoccupied shipmaster? — not mentally switching off with a pilot on board and doing useful things such as parallel indexing around the bends and constantly checking what is going on.

Pilotage, says Geoff Taylor in his foreword to the International Maritime Pilots' Association new book *IMPA on Pilotage*, is about "highly skilled individuals using their judgement, experience and good seamanship to bring vessels through the dangers that can be found in pilotage waters".

Capt Taylor is a former IMPA president and was a Tees pilot for more than 30 years. He knows what he is writing about. I have watched him at work.

But how can the business of pilotage, which is different in every port in the world, on account of its geography, topography, hydrography, meteorology and doubtless several other ologies that have so far eluded me, be confined between the hardbacked covers of a single volume?

You can't learn to be a pilot from a book, can you?

Of course, pilots do learn on the job, assisted these days by wonderful training aids such as manned models and simulators.

However, there is a great deal that they do need to know that is specific to their specialist calling and this excellent volume will fill many of the gaps that might otherwise require some hard searching elsewhere.

Experts' chapters

It is a book that acknowledges the spectrum of differences between pilotage operations, calling on a large number of practical experts from around the world to write chapters and sections appropriate to their skills.

Thus the singular business of pilotage in straits is described by two experts from the Bosphorous Strait, a Panama Canal pilot writes on this unique waterway, where responsibility for safe navigation is taken by the pilot, and two London pilots and trainers cover simulator training.

The information throughout the book comes, as it were, from the horse's mouth. It is not secondhand wisdom.

The book begins, perhaps appropriately in this litigious age, with legal and statutory matters, placing pilotage within the context of the International Maritime Organization, national instruments, where the pilots stand in their somewhat exposed position on issues of criminalisation and liability, and what immunity and exemptions might offer them some relief.

You hear a great deal of tripe about casualties in pilotage waters, chiefly from people who have never been on a ship's bridge in any operational role, who make idiotic statements about "most accidents occurring with a pilot on board".

This fails to acknowledge the huge numbers of casualties there would be without the intervention of this specialist during a transit through the riskiest part of a voyage.

It tends to be the same people who think competition between pilots would improve matters and that Pilotage Exemption Certificates should be offered to the ship's cook. But I digress.

There are extensive chapters on the conduct of pilotage, from the routine to the special circumstances of winter pilotage, deepsea operations, canals and straits.

There is a comprehensive section on ship handling, taking in propulsion, steering and power and emergencies such as blackouts, handling high-sided vessels, the use of azimuthing control devices and phenomena such as squat and interaction.

There is good advice on the use of tugs, handling warships, sailing vessels and fast craft. Would-be pilots will be interested in the section on requirements, training and certification, with various routes into the profession and the importance of continuous professional development, mentoring and simulators.

Bridge-resource management for pilots is described, showing how important it is that the pilot is integrated into the ship's team at this important part of the voyage.

Fatigue and its management are given a special section, important in what is a stressful, round-the-clock profession.

There is an important section on the business of pilot transfer and ladder safety, which has been an issue over all my working life.

Pilots are still killed and injured in what remains a hazardous evolution, particularly in open roadsteads or marginal weather conditions.

The book goes on to describe the use of pilot boats and helicopters.

The final section of the book provides IMPA policies, with the organisation's views on competition, the use of electronic charts, E-navigation and guidelines on design and use of portable pilot units, covered in separate appendices.

The book recognises the pilot's role in a fast-changing world in which, as Geoff Taylor notes, the pilot must be "ever mindful of the need to look out of the bridge window while adopting and adapting marine technologies to their skill set".

IMPA on Pilotage is published by Witherby Publishing Group, www.witherbys.com, price £75 (\$127.70). (Posted on 03/07/2014)

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D'Entrecasteaux dans les mers du Sud (partie I)

Olivier Chapuis

Le 29 septembre 1791, deux frégates commandées par d'Entrecasteaux quittent Brest et mettent cap au Sud, à la recherche de Lapérouse, disparu depuis le 10 mars 1788. Lors de ce long périple autour de l'Australie - vingt-cinq mois de navigation, entrecoupés de rares escales - le sauvetage ne sera pas accompli, mais les émotions s'enchaînent au fil des travaux scientifiques ou des fortunes de mer. En voici le récit inédit par Beautemps-Beaupré, le jeune géographe de l'expédition.

En août 1797, le naturaliste Claude-Antoine Riche débarque à Bordeaux, après un long voyage en provenance de l'île de France (aujourd'hui l'île Maurice), où il séjournait depuis 1794. Usé à trente-cinq ans par les vingt-cinq mois de l'expédition d'Entrecasteaux, le savant se rend directement au Mont-d'Or, afin d'y prendre les eaux. A peine arrivé dans la localité auvergnate, le 5 septembre, il y succombe. Ses papiers et ses collections sont parvenus au Muséum d'histoire naturelle de Paris un an auparavant. Ami de Riche, le grand Georges Cuvier (1769-1832) - alors professeur d'anatomie comparée au Muséum - est chargé de son éloge, tandis qu'un autre éminent spécialiste de l'histoire naturelle, Jacques Julien Houtou de La Billardière (1755-1834), lui aussi rescapé de l'expédition, en prépare le premier récit publié.

Mais les papiers de Riche comportent de nombreuses lacunes quant au déroulement du voyage. Cuvier appelle alors à la rescousse Charles-François Beautemps-Beaupré (1766-1854), l'hydrographe de l'expédition d'Entrecasteaux rentré à Paris en même temps que les documents de son compagnon de périple, pour qu'il lui écrive un récit circonstancié

de l'expédition. Entre septembre et décembre 1797, Beautemps-Beaupré - le père de l'hydrographie moderne rédige ainsi son "journal abrégé", qui aidera Cuvier à prononcer l'éloge de Riche, le 13 décembre.

Un journal témoignant d'une grande curiosité, rédigé à l'intention d'un lecteur unique

Logiquement, Riche occupe une place prépondérante dans le manuscrit de Beautemps-Beaupré. Conservé dans les archives du Muséum national d'histoire naturelle, ce document est publié ici pour la première fois, alors que le texte de Cuvier, qui s'en inspire, a été imprimé dès 1797. Beautemps-Beaupré a sans doute une certaine admiration confraternelle pour le frère aîné de son compagnon de voyage, le grand géodésien Gaspard-Clair-François-Marie Riche de Prony, plus connu sous le nom de Gaspard Prony (1755-1839). Cet ingénieur en chef des Ponts et Chaussées est successivement, de 1791 à 1798, directeur du cadastre de la France, responsable des nouvelles tables trigonométriques adaptées à la division décimale du cercle, professeur à la toute jeune Ecole polytechnique, membre de l'Institut et directeur de l'Ecole des ponts et chaussées.

Mais les relations avec le naturaliste Riche n'ont sans doute pas toujours été faciles. Si d'Entrecasteaux et Riche avaient survécu, ce dernier aurait - les archives confirment cette intention - fait état publiquement des tensions très vives l'opposant à l'amiral, auquel il reprochait de tout sacrifier à l'hydrographie au détriment des sciences naturelles. Or, fortes d'appuis politiques importants au sein de l'Assemblée nationale, celles-ci étaient à l'origine de l'expédition - à la fois mission de secours pour rechercher Lapérouse et voyage scientifique pluridisciplinaire -, dans la tradition de sa grande devancière.



Bien qu'il ne soit pas écrit au jour le jour, mais rédigé a posteriori - les contraintes de l'hydrographie en temps réel exigeant une présence de tous les instants pour les levés cartographiques —, le journal de Beautemps-Beaupré apparaît aussi riche que ceux tenus par d'autres savants ou officiers, témoignant d'une évidente curiosité, indépendamment d'un sens de l'observation bien naturel pour un cartographe. Il s'intéresse également aux nourritures

terrestres et à la vie des hommes! d'équipage, prouvant ainsi qu'il n'est pas un savant isolé dans son château arrière.

Plus qu'un véritable texte construit, ces cinquante feuillets sont destinés à être lus uniquement par Cuvier, contrairement à ce que prépare La Billardière et à ce que fera douze ans plus tard Paul-Edouard de Rossel (1765-1829). Ce dernier, officier de l'expédition, en publiera en février 1809 le récit officiel, sous le titre Voyage de D'Entrecasteaux, avec un volumineux appendice scientifique de Beautemps-Beaupré. Sans prétention littéraire et bien qu'inachevées, puisqu'elles se terminent au havre de Balade en Nouvelle-Calédonie en avril-mai 1793, les notes de Beautemps-Beaupré

présentent l'intérêt d'évoquer les temps forts et les diverses facettes de la dernière grande exploration scientifique française du XVIII^e siècle.

De Brest à la Tasmanie et à la découverte d'un détroit



Le naturaliste Jacques-Julien Houtou de La Billardière (1755-1834) est l'auteur du premier récit publié de l'expédition, paru en 1799.

"On partit de Paris le 2 septembre 1791 et de Brest le 28 du même mois, à midi [la rade n'étant quittée que le lendemain par les frégates la Recherche, commandée par d'Entrecasteaux, avec Beautemps-Beaupré à bord, et l'Espérance, commandée par Jean-Michel Huon de Kermadec (1748-1793)]. "[Après des escales à Tenerife et au cap de Bonne-Espérance], nous mouillâmes le 21 avril à la terre de Van Diemen [la Tasmanie, au Sud de l'Australie] dans un joli port [mouillage forain dans un havre naturel] que nous découvrîmes heureusement dans la partie Ouest de la baie des Tempêtes. Les naturalistes profitèrent du temps que dura notre relâche pour en visiter les environs. Ils essayèrent à plusieurs reprises de pénétrer vers les montagnes de la partie Ouest, mais toujours vainement. La baie est si touffue et si embarrassée par les troncs des vieux arbres qui barrent les issues qu'à peine en une

journée pouvaient-ils faire une lieue [4445 mètres]. Riche et ses compagnons, consultant plutôt leur zèle que leurs forces, firent des excursions qui durèrent jusqu'à trois et quatre jours. Ils recueillirent beaucoup de très beaux oiseaux et des coquilles nouvelles, mais ils n'eurent occasion d'observer qu'un seul quadrupède, le kangourou.

"La pêche était si abondante qu'elle fournit non seulement aux besoins journaliers des équipages mais encore une assez grande quantité de poissons que l'on sala et qui fut d'une grande ressource pour la suite du voyage. On tua dans ce port un gros phoque ou veau marin, deux cygnes [le cygne de Tasmanie est particulièrement impressionnant] et une grande quantité de perruches, perroquets, corbeaux, etc. Nous éprouvâmes pendant quelques jours un froid assez vif et pendant tout le temps de notre relâche, les montagnes des environs furent couvertes de neige [la Tasmanie est dans les quarantièmes rugissants et l'automne austral s'est installé].

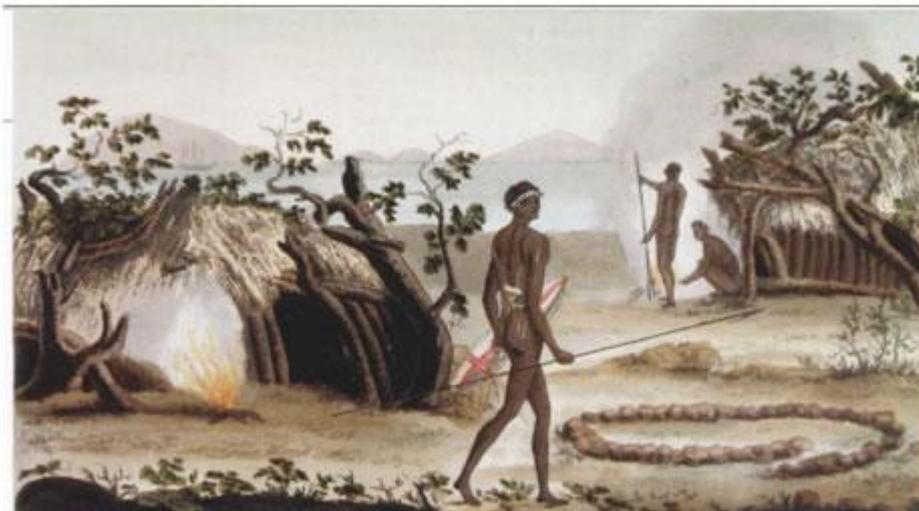
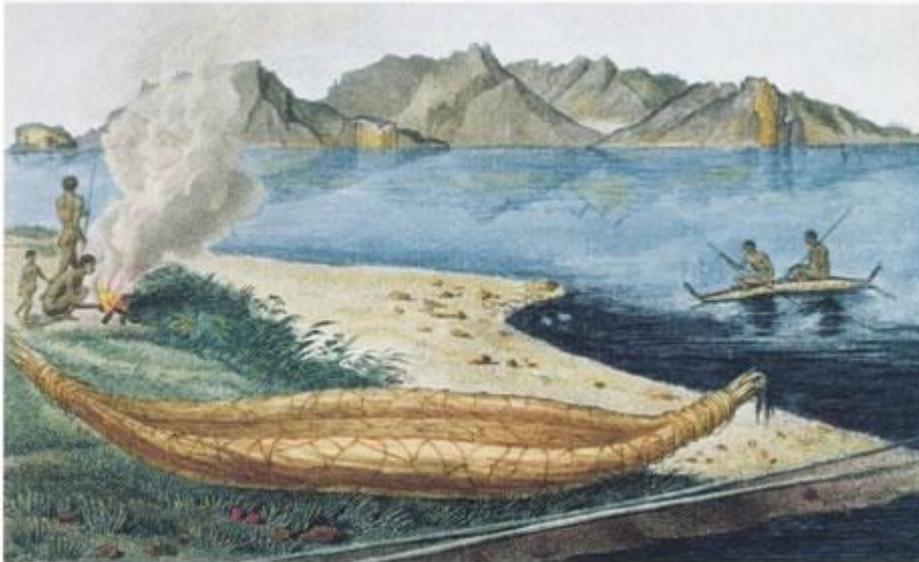


Vue de l'intérieur du port de Brest prise de la cale centrale (1792), huile sur toile par Jean-François Huon (1751-1822). Ce tableau évoque bien le site que l'expédition d'Entrecasteaux quitta en septembre 1791.

"On ne vit point de naturels dans cette première relâche. Nous trouvâmes seulement des cases abandonnées depuis peu de temps, remplies de débris du coquillage nommé ormeau ou ouille d'homme par les marins [comme en Terre de Feu, à ces hautes latitudes, le coquillage est l'une des ressources alimentaires essentielles]. Dans l'une de ces cases, Riche eut occasion de voir des ossements humains qui paraissaient avoir été rongés récemment." Si l'on en croit les récits des voyageurs qui ont précédé d'Entrecasteaux en Tasmanie, les aborigènes ne semblent pas être anthropophages. Pour

La Billardière, cette découverte s'expliquerait plutôt par le fait qu'ils brûlaient les os de leurs morts.

"Les cases sont extrêmement simples. Elles ont exactement la forme d'une ruche de mouche à miel, avec 9 à 10 pieds de diamètre et 8 à 10 de hauteur [la valeur a posteriori du pied de roi est de 324,84 millimètres]. Elles sont construites avec des bâtons fichés en terre longs de 8 à 10 pieds, enlacés en dedans de cerceaux. Le tout est garni de branches et d'écorces d'arbres. Et la porte, ou pour parler plus exactement l'endroit où il devrait y en avoir une, est très basse. Il faut se courber pour y entrer. Nous trouvâmes de l'herbe sèche dans plusieurs des cases et dans presque toutes des excréments qui en



rendaient le séjour insupportable. Voilà à peu près la forme de ces misérables habitations qui à peine peuvent garantir d'une pluie un peu forte."

Pendant cette escale au Sud-Est de la Tasmanie, Beautemps-Beaupré et le lieutenant de vaisseau Crestin aperçoivent un vaste bras de mer où l'onde "n'est jamais agitée, même par les vents les plus impétueux", comme l'écrit Rossel dans ses notes préparatoires à la publication du voyage.

D'Entrecasteaux

décide alors de vérifier si la baie de l'Adventure, où James Cook a relâché en janvier 1777, fait partie de la terre de Van Diemen, ou si elle en est séparée par un passage. Le 16 mai, les frégates s'enfoncent vers le Nord-Est.

"Aucun des navigateurs de l'expédition n'avait encore vu, dans ses voyages, de mouillage aussi vaste et aussi sûr. Toutes les flottes du monde pourraient s'y trouver rassemblées", note l'amiral, alors que le lieutenant de vaisseau Saint-Aignan prend le commandement d'un canot de la Recherche. Avec Beautemps-Beaupré et onze hommes d'équipage, ils

Bien que postérieures à l'expédition d'Entrecasteaux, ces deux vues de la terre de Van Diemen – dont (ci-dessous) une œuvre de Lesueur gravée pour le *Voyage de découvertes aux terres australes de l'expédition Baudin* (1800-1804) – donnent une bonne idée du mode de vie très démunis des habitants originels de la Tasmanie, à cette haute latitude australe. Ils seront très rapidement exterminés après l'installation des Européens, dans les premières années du XIX^e siècle. Les huttes d'habitation, très sommaires, contrastent avec les embarcations en roseau construites selon une technique bien élaborée.

partent pour quatre jours de reconnaissance vers la sortie présumée. Le soir même, la découverte est effective et Saint-Aignan consigne dans son rapport: "Il ne fut plus permis de douter de l'existence d'un détroit, lorsque je vis la mer se briser avec violence contre le rivage et s'agiter dans toute l'étendue qui se laissait découvrir".

A l'approche de l'hiver, la température est très basse et la première nuit de bivouac n'est supportable qu'autour d'un grand feu. Mais l'excitation d'apercevoir de l'autre côté de cette immense baie, les sommets des îles Maria, ainsi baptisées par Cook, est la plus forte. Sur le chemin du retour, Saint-Aignan traverse l'isthme sablonneux séparant en deux l'île aujourd'hui connue sous le nom de Bruny (du nom de Joseph-Antoine-Raymond Bruny d'Entrecasteaux), et débouche sur la baie de l'Adventure. Depuis leur mouillage si proche, ni Furneaux (en 1773), ni Cook (en 1777), ni Bligh (en 1788, bord de la fameuse Bounty, et en 1792, quelques semaines avant d'Entrecasteaux) — a fortiori, ni Tasman (en 1642), ni Marion-Dufresne (en 1772), qui avaient relâché dans la baie de Frederick-Hendrick — n'avaient franchi les hauteurs avoisinantes, pour atteindre ce qui est désormais connu sous le nom de canal d'Entrecasteaux.



Le cygne noir, symbole de la Tasmanie, impressionne et nourrit les hommes de d'Entrecasteaux, qui donnent son nom à nombre de lieux.

Ce site exceptionnel est bien protégé de la houle du large, ce qui est essentiel dans une région au climat aussi hostile, par 43° 20' de latitude Sud. En outre, il est pourvu d'eau douce et de bois à volonté. Enfin, la seule reconnaissance du cap Tasman (pointe Sud de l'île Bruny), depuis le large, suffit à l'atterrissage dans le détroit, quel que soit le temps. Comme l'écrit Rossel dans le récit publié du voyage, "en une saison aussi avancée, et dans un golfe qui porte un nom si menaçant, la découverte d'un pareil mouillage est faite pour procurer à un homme de mer une jouissance qu'il faut avoir sentie pour pouvoir l'exprimer". Beautemps-Beaupré est moins lyrique

dans son journal: "Des deux côtés de ce détroit, les terres sont bien boisées et présentent un aspect des plus agréables. La pêche fut abondante. On y trouva des perdrix et des cailles." C'est l'ancien enfant de la campagne champenoise qui s'exprime.



Cet extrait de la carte de Beautemps-Beaupré du canal d'Entrecasteaux, en Tasmanie, est centré du cap Bruny au Sud-Ouest (le Nord étant situé à droite), au cap de la Sortie au Nord-Est, correspondant à la pointe Nord de la moitié septentrionale de l'île Bruny, entre le cap Sud et la rivière du Nord incluse (dont l'entrée est visible en bas à droite), l'actuelle rivière Derwent où se trouve la ville d'Hobart.

En Nouvelle-Calédonie les manques à virer s'enchaînent au vent d'un immense récif

"Nous quittâmes la terre de Van Diemen le 28 mai et nous fîmes route sur la Nouvelle-Calédonie, que nous atteignîmes le 16 juin, après avoir reconnu l'île des Pins et doublé la pointe Sud des brisants. Nous longeâmes la côte Ouest de la Nouvelle-Calédonie, approchant le récif qui cerne cette terre le plus près possible pour tâcher de

trouver un mouillage. Le 20 juin la Recherche se trouva engagée dans des récifs et ayant manqué à virer faillit y rester." Un matelot raconte mieux l'épisode dans son propre journal: "Le matin au petit jour, nous fûmes bien étonnés de nous trouver entourés de récifs. Nous avions tribord amures et au plus près du vent. Il ventait très fort et la mer était très mauvaise. Nous n'avions pas assez d'espace pour virer vent arrière. Nous manquâmes de virer vent devant cinq fois et nous courions dessus. Par bonheur, la sixième fois nous virâmes."

Premier pilote de la Recherche, Pierre-Guillaume Gicquel donne un récit plus critique du même événement: "Le 20 au matin, ayant bon frais, nous nous trouvâmes au point du jour très près au vent d'un grand banc de récifs, à plus de 6 lieues de terre. Notre bord portait sur la dernière pointe. Nous manquâmes d'abord à virer par la faute de M. Rossel qui ne voulut pas écouter les conseils que des marins plus consommés lui donnaient. Il remit le quart à M. Crestin, sous prétexte d'un violent mal de tête. Celui-ci manqua encore à virer, et quitta le pont, ayant des coliques très fortes. Enfin, M. d'Hesmivy d'Auribeau, qui avait pris médecine avant le jour, monta et fit virer la frégate vent devant, ayant eu la précaution de filer deux à trois pieds de l'écoute de misaine. Il était temps de virer. Nous étions déjà dans la grosse houle et à une encablure du récif. Si, dès la première fois qu'on avait manqué à virer vent devant, on eut fait lof pour lof, nous n'aurions pas couru ce danger."



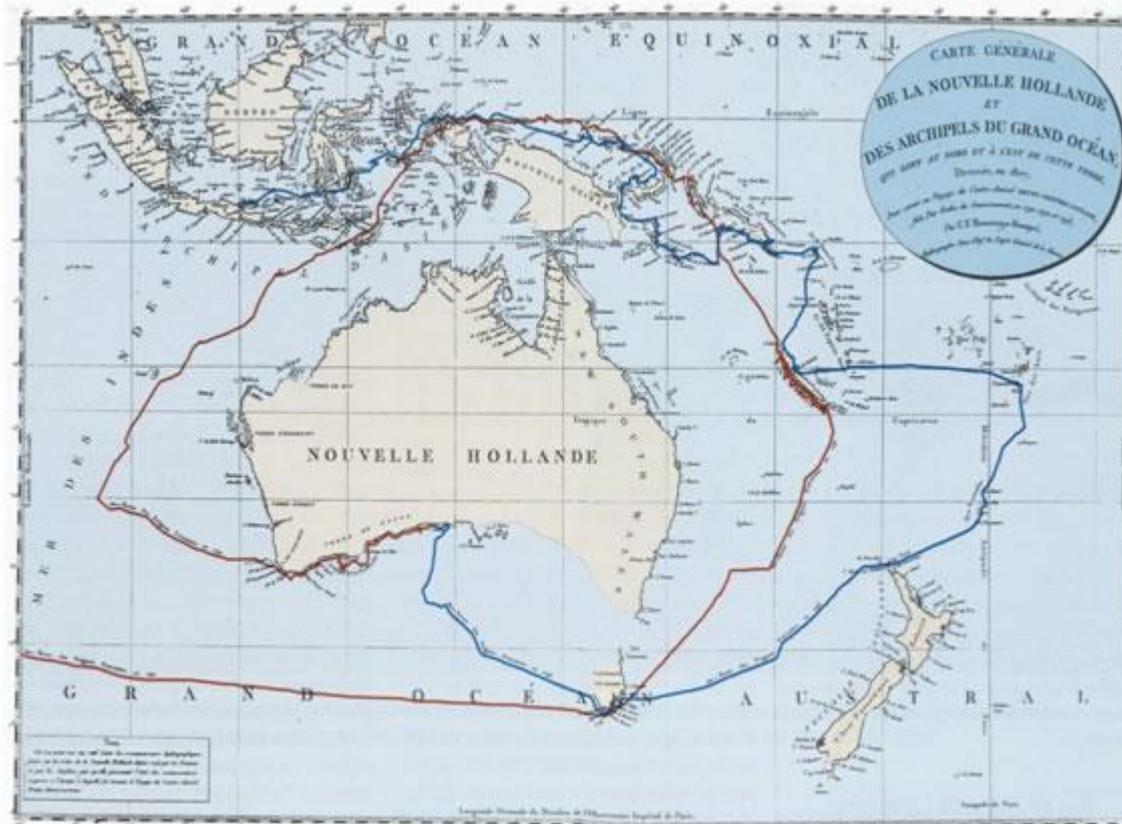
Cette représentation d'un indigène de Nouvelle-Calédonie, due à Sauveur et gravée en 1796 par Laroque, est à peine postérieure à la fin de l'expédition d'Entrecasteaux.

Plus discret sur cet épisode, Beautemps-Beaupré est la cause de cette bien dangereuse navigation, que nombre lui reprochent à bord des frégates: certains

autres savants, parce qu'ils ne peuvent aller à terre, et plusieurs membres d'équipage qui jugent ces risques insensés. En effet, pour dresser en temps réel la première carte de la côte occidentale de Nouvelle-Calédonie, il faut suivre la côte au plus près. Chaque nuit, les bâtiments sont mis en panne, afin de ne pas dépasser le dernier point aperçu la veille. Sous-tollés, ils tirent parfois des bords dans le seul périmètre reconnu avant le crépuscule. A l'aube, la reconnaissance reprend au même endroit. Et l'hydrographe de noter dans son journal: "Ce fut vainement que nous cherchâmes un mouillage. Le récif qui s'étend partout le long de cette côte ne nous offrait

qu'un naufrage certain dans le cas où nous aurions été assaillis par un coup de vent ou contrariés par des calmes." Cela dure sur un peu plus de 400 milles, depuis le Sud de la Nouvelle-Calédonie jusqu'à 120 milles au Nord de la pointe septentrionale de l'île.

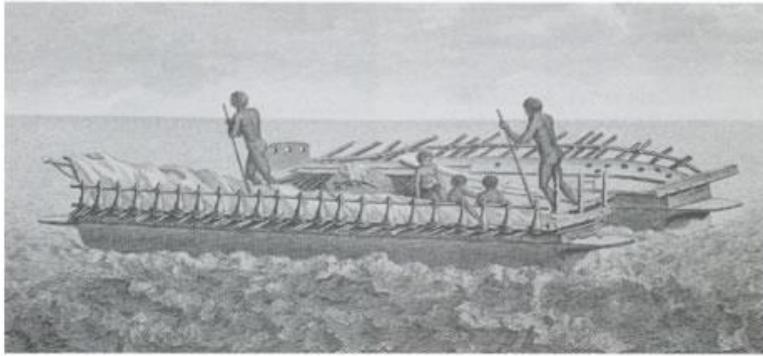
"Le 9 juillet, nous eûmes connaissance de l'archipel Salomon. La saison ne permit pas au général (3) de s'y arrêter. Nous fîmes route pour reconnaître la partie Ouest de l'archipel de Bougainville. Les journées du 11 au 15 furent employées à visiter cette terre, dont les brisants rendent l'approche dangereuse. Parvenus à la pointe Nord de l'île Bouka, nous communiquâmes avec les habitants, qui nous engagèrent par signes à aller à terre. Ils montaient des pirogues extrêmement légères, étaient armés d'arcs et de flèches dont ils paraissaient se servir avec beaucoup d'adresse et qu'ils consentirent à échanger contre des verroteries et autres marchandises d'Europe.



Dressée en 1807 pour l'atlas de l'expédition d'Entrecasteaux, cette *Carte générale de la Nouvelle-Hollande et des archipels du Grand Océan* qui sont au Nord et à l'Est de cette terre donne l'état des connaissances à la fin du voyage, avec la route suivie en 1792 et 1793. Les couleurs ont ici été ajoutées pour une meilleure lisibilité (route de 1792 en rouge, route de 1793 en bleu). Aucune des découvertes réalisées après d'Entrecasteaux, entre 1793 et 1807, ne figure ici. Elles sont pour l'essentiel dues à Baudin et Flinders, à l'instar du détroit de Bass entre l'Australie et la Tasmanie.

"Je n'ai vu nulle part d'homme dont la figure fût plus effroyable que celle de ces insulaires. Ils mâchent le bétel comme les Malais et, comme eux, ont les dents abîmées par la chaux. Ils paraissent avoir le visage barbouillé de noir et de quelques autres couleurs. Le son du violon leur plut infiniment. Quand on joua l'air de Marlborough [Marlborough s'en va en guerre est à la mode depuis les victoires du duc de Marlborough, commandant en chef anglais dans la guerre de Succession d'Espagne, au début du XVIIIe siècle], de manière à écorcher les oreilles d'un Européen, ils se mirent à danser dans leurs pirogues en faisant mille contorsions.

"En quittant l'archipel de Bougainville, on fit route pour la Nouvelle-Irlande [archipel Bismarck] et, le 17 juillet, nous mouillâmes dans le havre Carteret, à peu de distance du port que Bougainville a nommé Praslin. Nous préférâmes le havre Carteret au port Praslin parce que nous espérions trouver là beaucoup de cocos, mais nous fûmes trompés dans notre attente. A peine trouvâmes-nous quinze cocotiers. Nous fûmes aussi très malheureux à la pêche. On voyait beaucoup de poissons dans la baie, mais on n'en prit que très peu. La pluie fut si continuelle pendant toute la relâche que nos astronomes ne purent faire une seule observation. Cette pluie gêna aussi beaucoup les naturalistes, qui ne purent, malgré le zèle qui les animait, pénétrer dans l'intérieur des terres.



Conforme à celles vues par l'expédition, cette pirogue double de la Nouvelle-Calédonie est dessinée par Piron pour l'Atlas pour servir à la relation du voyage à la recherche de La Pérouse, de La Billardière (1799). Manœuvrée à la perche, l'embarcation accueille un feu entretenu en permanence.

"Le bois est encore plus difficile à pénétrer que celui de la terre de Van Diemen; les

insectes sont en grande quantité et surtout celui nommé mille-pattes dont plusieurs personnes furent mordues. Nos matelots, voyant qu'ils ne pouvaient parvenir à faire sécher leurs habits, prirent le parti d'aller à l'eau, au bois et même de travailler aux ouvrages, habillés seulement d'un pantalon. La suite de cette malheureuse relâche fut un assez grand nombre de scorbutiques. Nous ne vîmes point d'habitants, mais nous fûmes convaincus par les feux que nous trouvâmes sur le rivage qu'ils venaient quelquefois à la pêche. Quelques personnes crurent avoir entendu des cochons sauvages dans les bois mais cela ne rendait pas notre position meilleure."

Pas de trace de Lapérouse, mais le scorbut sévit et l'on rencontre de "bons habitants"



Pour l'expédition d'Entrecasteaux, le havre Carteret, en Nouvelle-Irlande, n'a pas les accents paisibles que lui donnera Louis-Auguste de Sainson, lors du premier voyage de Dumont d'Urville (1826-1829). Si l'eau fraîche de cette aiguade est bien présente, les noix de coco et les poissons font défaut!

"Nous quittâmes, avec bien du plaisir, ce havre Carteret, le 24 juillet. L'Espérance perdit une de ses ancres en appareillant [à cause de la rupture d'un maillon

défectueux]. Nous suivîmes d'assez près toute la côte Sud de la Nouvelle-Irlande. Nous passâmes entre elle et l'île nommée Sandwich par Carteret. Ensuite nous longeâmes la Nouvelle-Hanovre et enfin, le 28 juillet, nous eûmes connaissance des îles de l'Amirauté [baptisées ainsi par le navigateur anglais Philip Carteret, dont le voyage date de 1766-1769]. Le général manœuvra pour dépêcher ses embarcations sur la plus orientale de toutes, la Vandola, et le lendemain, les deux grands canots bien armés furent envoyés, pour savoir si effectivement on aurait eu la connaissance du malheureux Lapérouse. Le gouvernement de l'île de France nous avait fait passer au cap de Bonne-Espérance tous les renseignements qu'il avait eus des Anglais et Hollandais [alors qu'on disait avoir aperçu des vestiges d'équipements français sur les îles de l'Amirauté]. Les équipages des canots ne purent descendre à terre, à cause d'une barre qui entoure l'île. Mais ils communiquèrent amicalement avec les bons habitants. Les échanges furent bientôt établis.

"On leur donna avec générosité toutes les petites bagatelles qui plaisent tant aux sauvages et, en revanche, ils donnèrent une assez grande quantité de cocos. Ils vendirent aussi sans la moindre difficulté beaucoup de sagaies, la seule arme dont on les trouva armés, en vérité bien peu dangereuse puisque ce n'est autre chose qu'une pierre

noirâtre assujettie au bout d'une baguette de la grosseur du pouce, au moyen d'une résine ou mastic. Ces bons habitants connaissaient certainement l'effet des armes à feu, dont Carteret s'était servi, car un vieillard, ayant aperçu dans un des deux canots les fusils que l'on avait eu soin de couvrir au commencement des échanges, se mit à pousser



un cri et ensuite il fit signe à ses compatriotes de se retirer, ce qu'ils firent tout de suite.

Dessinée par Piron pour l'Atlas pour servir à la relation du voyage à la recherche de La Pérouse, de La Billardière (1799), cette scène des îles de l'Amirauté montrant une pirogue à double balancier illustre bien le caractère pacifique des habitants de l'île de la Vandola, et le fait que les rumeurs de la perte de l'expédition Lapérouse dans cet archipel étaient peu fondées.

"On ne trouve rien dans cette île qui annonce le naufrage d'un vaisseau et l'on peut assurer, sans craindre de se tromper, que des Européens, même échappés d'un naufrage, n'auraient rien à redouter d'une peuplade qui ne connaît pas d'autres armes que la simple sagaie. Ces insulaires sont d'une taille assez belle, paraissent robustes, ont les cheveux crépus et peints, ne sont pas noirs mais plutôt couleur marron. L'habillement complet des hommes consiste en une coquille blanche, que les naturalistes appellent je crois l'œuf, dont ils agrandissent l'ouverture et dans laquelle ils font entrer le sexe. Ils se défont très difficilement de ce bizarre ornement et quand ils s'en dessaisissent, ils ont grand soin de se cacher. Pour l'ôter, quelques-uns portent aussi des ceintures fabriquées avec les filaments des cocos. Elles sont teintes de différentes couleurs. Les personnes qui furent dans les canots me dirent que l'habillement des femmes consiste en une espèce de jupon de feuillage qui descend jusqu'aux genoux, mais n'en ayant pas vu une seule, je ne puis assurer ce fait.

"Lorsque nous arrivâmes à Amboine, le 6 septembre 1792, nous avons beaucoup de scorbutiques. Mais le pays est si sain qu'en dix jours à terre, ils furent tous parfaitement guéris (il est bon de remarquer que les individus qui la première année de campagne furent atteints de cette funeste maladie n'en ressentirent plus d'atteinte durant ce cours du voyage [il n'en demeure pas moins que les cas de scorbut sont anormalement élevés dans cette expédition, comparée à celles de Cook, et que cela vient à la fois d'une alimentation trop pauvre et du manque chronique d'eau, les bonnes escales étant trop rares]). Si l'on excepte le vin et le pain, on peut dire qu'il n'y a pas dans le monde de pays plus abondant en vivres que cette île [du Sud de l'archipel des Moluques].

"La volaille et le poisson s'y donnent pour rien. Le boeuf comme dans tous les pays chauds n'y est pas aussi bon qu'en Europe. En revanche, le porc y est beaucoup plus délicat. Les habitants de l'île le nourrissent principalement avec le sagou [tiré des palmiers], le riz et le poisson. Ils mangent peu de viande, les légumes et les fruits sont bons et en grande abondance. Nous aurions bien désiré trouver de la farine et du vin pour remonter nos provisions du bord. Mais il fallut renoncer à ces articles importants, ou trouver seulement un peu de mauvaise farine, que l'on acheta au poids de l'or, selon la louable coutume. Les Hollandais nous firent beaucoup de politesse mais le mémoire [la facture] s'en ressentit (au moins je l'ai entendu dire). Les productions de cette belle île sont assez connues pour que je me dispense d'en parler."

A suivre

Inséré le 05/09/14 Dossier Enlevé le 05/10/14

Regulating maritime security through the industry

It is true that those working to provide robust solutions to guard the commercial shipping industry from the threat of piracy have had a positive impact over the past few years*.

The use of armed guards to protect commercial vessels has been pivotal. Still, socio-economic and political conditions across parts of East and West Africa – poverty, poor governance and corruption, remain the seedbed for this ever-evolving threat.

We must not become complacent. The reduction of incidents of piracy continues to require a co-ordinated approach across the shipping industry, the success of which rests partly in the hands of shipowners and insurers.

Currently, there is significant disagreement among owners and operators of commercial shipping as to the value of maritime security. There are those that regard having highly trained and experienced security teams on board their vessels as an absolute necessity. And there are those for whom the price of protection is always too high.

Certainly, some security companies will tell shipping companies what they want to hear. It follows that there may be some who will risk the ultimate safety of vessels and their crews in order to win a contract. It is also true that poorly trained two and three man teams guard vessels that undoubtedly require four competent guards in order to provide adequate protection. And it is true that some commercial shippers see maritime security as a thought-free tick in a box. In other words, the cheapest will do.

While there must be recognition of the financial pressures that shipping companies face, this must not be an excuse for failing to fortify our vessels and protect our crews. The safety of seafarers, as well as guards, is inviolable. The key to safe passage is in creating the conditions in which contracting with fully qualified, certified and vetted maritime security companies is the norm. As an industry, shipping has certainly made great strides towards this but we must not fall short.

The IMO should be commended for acting swiftly against piracy. The organisation's developing standards have helped to create more significant barriers to entry for ill-equipped maritime security companies and importantly, provided owners and operators with some means for evaluating and benchmarking the services of prospective maritime security providers. This is an important step on the path to proper regulation.

However, flag states now require differing accreditation criteria, leaving evaluation of operational standards, accountability and issues of due diligence subject to the nuance of each and every legal system involved. The system creates a disparate array of legal hurdles, which do increase barriers to entry but do not deter those continuing to offer more for less.

New standard

The introduction of the ISO28007 is to be welcomed. The standard offers a transparent benchmark for shipping companies and importantly, provides a stamp of approval. If the

ultimate aim is to draw upon this standard and channel it through national law and international moves, then this may well be a robust foundation for the normalisation and standardisation of armed guarding practices globally.

However, to be successful ISO28007 requires the buy-in and good will of the shipping industry, and in particular, shipowners. ISO is a non-governmental organisation and has no power to enforce the implementation of the standards it develops. Any standard that is developed, to become universal, will still have to be adopted as part of the regulatory framework. In addition, shipowners choosing a security partner to effectively protect their crew and vessel will still require early engagement and thorough due diligence into maritime security services in addition to ISO28007 when it becomes available later in the year.

Collectively, this patchwork of suggestion and requirement, spanning the IMO, ISO and numerous flag states creates an unnecessarily complicated tapestry. The relationship between over-complication and commercial necessity has created a muddle where purported regulation still does not have the facility to isolate and dispel unsafe practice and paper-thin businesses.

This is where insurers must come in. With a co-ordinated approach, underwriters have the ability to set hurdles high enough to raise industry standards. By understanding the threat of piracy and how to ameliorate it, insurers must insist on a robust risk assessment of the defence requirements of every vessel they insure. Moreover, they can refuse to write insurance for maritime security companies who show poor corporate governance, inadequate licensing, poorly trained personnel, inadequate and inconsistent due diligence and evidence of poor logistics support. Under these circumstances, the maritime security industry can be regulated and controlled.

By offering reduced insurance premiums for fully accredited, qualified and suitably equipped maritime security companies and raising premiums for those who fall short of providing best practice, the incentive to sacrifice quality in favour of cost is significantly reduced. This is more than risk and probability. Ultimately, this is about pastoral care of the seafaring community. In this, insurance must play its part.

TO

*This article was written by Charlie Butterworth, Protection Vessels International's legal counsel.

Inséré le 07/09/14 NIEUWS NOUVELLES Enlevé le 07/10/14

IMO Maritime Safety Committee

IMO Maritime Safety Committee Outcome MSC 91 was held in London on 26-30 November 2012 under the chairmanship of Deputy Director-General of the Danish Maritime Authority Christian Breinholt. Code on protection against noise on board ships The Committee adopted a mandatory code for the protection of seafarers against noise on board (the Noise Code). The Code lays down the permitted maximum noise limits on ships to protect seafarers against noise and contains detailed provisions on how to carry out the necessary measurements to ensure compliance with the noise levels. It was decided that the Code enters into force on 1 July 2014 since it will apply to ships for which a building contract is concluded on or after 1 July 2014, or the keel of which is laid on or after 1 January 2015, or which are delivered on or after 1 July 2018.

Enhanced passenger ship safety As a follow-up on the **COSTA CONCORDIA** accident in January 2012, the Maritime Safety Committee initiated a scrutiny of existing safety regulations and supplementary guidelines on safe operation of passenger ships in the spring of 2012. The result of this was a number of recommendations that the passenger ship companies were urged to incorporate into their safety procedures. At the same time, a number of relevant long-term initiatives were identified so that they could be considered by the IMO upon the proposal of the member States. Before this session, it was expected that it would be possible to present the casualty investigation report at this meeting just as the Maritime Safety Committee could, on the basis hereof, assess the need to launch new independent measures.

Though it became evident at the meeting that the casualty investigation had not yet been finalized, it was - considering the special circumstances of the accident - decided to establish a working group on passenger ship safety to assess and, if relevant, follow up on the information that had in the meantime become available about the accident. Against this background, it was decided at the meeting to make the regulations on the mustering of passengers on board passenger ships stricter when these passengers are to be accommodated on board for more than 24 hours. According to the proposal, musters must thus take place before departure or shortly after the ship's departure from the port in which the passengers have embarked. Furthermore, it was agreed to tighten up the recommendations on musters so that shipping companies and masters are to strive for all passengers to take part in the musters planned. Finally, it was agreed as a long-term measure that the guidelines on the planning of voyages should to a greater extent emphasize the need for a thorough evaluation of changes to the planned voyage if such changes were made during the voyage and were not made on the basis of navigational or weather-related conditions.

The ISM Code Denmark had, in close cooperation with the other EU member States, strived for an approval of a number of proposals for amendments to the ISM Code and its associated instruments. The overall aim was to stress the company's responsibility for assessing whether the crew was sufficient for the ship's operation and to specify the company's responsibility for ensuring that the ISM-related tasks delegated out to sub-contractors meet the safety standards of the ISM Code. The proposal that had been drawn up by the so-called Human Element Working Group was approved by the Maritime Safety Committee with a single amendment on the use of footnotes with a view to adoption at the next session of Committee to be held in June 2013.

Guidelines on safety when transferring persons at sea Occasioned by a tragic incident where a seafarer died when embarking a ship in the roads on a winter day, Denmark had submitted a proposal for the IMO, containing a number of Danish recommendations on safety when transferring persons at sea. The Danish recommendations were well received and the Maritime Safety Committee decided to draw up IMO guidelines on safety when transferring persons at sea on the basis hereof. The Committee decided that the work should be carried out by the Sub-Committee on Standards of Training and Watchkeeping within the Human Element Working Group in the spring of 2013.

New ship standards and the use of risk analyses Goal-Based Standards (GBS) is an overall framework tool for the standards according to which ships are to be built. In the longer term, it is expected that the new tools will create the framework of future international regulations on the construction of ships and will help develop innovative ship designs without compromising safety. At the meeting, it was sought to further develop a common definition of the so-called "safety level approach", which is a risk-based approach where an assessment of a number of risk factors is included, for example the risk of human errors when assessing the safety of a ship design. In addition, further

work was made on guidelines for the approval and promotion of new and innovative ship designs that could not be encompassed by current SOLAS regulations. Originally, the guidelines were sub-mitted by Denmark in connection with the so-called SAFEDOR project. This work was not finalized and therefore it is now continued in a correspondence group with a view to being finalized at the next session of the Maritime Safety Committee to be held in June 2013.

Piracy During a number of sessions, the Committee had been working on a number of initiatives for combating piracy. A great deal of this work had already been implemented and therefore this meeting contained only general information about the trend in the number of acts of piracy and armed robbery. Furthermore, information was provided about the status of the development of a new standard for privately contracted armed security personnel developed by ISO, while work was ongoing finalizing a supplementary standard that could be used as guidance when approving such security personnel. The Committee agreed to continue the efforts made so far to combat piracy and that it was important to re-port acts of piracy in order to acquire extensive knowledge about developments herein and thereby contribute to arranging the efforts to be made to combat piracy in the best possible way.

New regulations The Committee adopted amendments to chapter II-2 of the SOLAS Convention on fire-safety concerning the so-called Fire Safety Systems (FSS) Code, new regulations on communication equipment for fire-fighters in connection with fire-fighting as well as requirements for equipment for recharging air bottles for fire-fighters. In addition, requirements will now be introduced on the procedures for the rescue of persons from the water. These regulations will enter into force on 1 July 2014.

Coming regulations

The Maritime Safety Committee approved the IMO Instruments Implementation Code, which was to form the basis for making it mandatory for all member States to be subject to an audit with a view to examining whether the member States meet their obligations under the maritime conventions on maritime safety and protection of the marine environment. Since the new regulations concern a number of conventions, a plan has been drawn up on how to adopt them at coming IMO meetings before they can enter into force. Furthermore, the Maritime Safety Committee approved new regulations on the recognition and authorisation of classification societies to perform survey and certification of ships on behalf of flag States. The so-called RO Code stipulates a number of requirements for what the classification societies must meet in order to be approved and authorised to perform surveys of ships on behalf of flag States. The regulations are to be adopted at the next session of the Maritime Safety Committee before they can enter into force. **Source: Danish Maritime Authority**

Inséré le 09/09/14 DOSSIER Enlevé le 09/10/14

How Do You Calculate Loss of Earnings Following a Collision?

The recent case of **Astipalaia vs Hanjin Shenzhen** [2014] EWHC 120 (Admlty) has revisited the existing case law on assessment of damages following a collision and provided further clarification as to the appropriate test to be applied. On 26 March 2008

there was a collision between the fully laden VLCC tanker **Astipalaia** and the container ship **Hanjin Shenzhen** in the approaches to Singapore where **Astipalaia** was due to discharge. As a result of the collision, **Astipalaia** suffered damage to her hull, guard rails and mooring chock. **Astipalaia** was able to proceed into Singapore to discharge her cargo.

The background facts

At the time of the collision, **Astipalaia** was trading in the VLCC spot market which in early-mid 2008 was particularly buoyant and the vessel was acceptable throughout the industry to oil majors and other first class charterers. However, **Astipalaia** was unfixed for her next employment at the time of the collision. As a result of the incident, the vessel's oil major approvals were temporarily placed on "technical hold" by the majors pending the usual investigation into the collision. **Astipalaia** was also required by class to undertake permanent repairs before any further employment.

Astipalaia sailed from Singapore to Dubai in ballast and entered dry dock for permanent repairs which lasted around 10 days. On exiting dry dock, **Astipalaia** was still unable to resume trading on the VLCC spot market as the "technical hold" had not then been lifted. In the absence of oil major approvals, **Astipalaia** was fixed to NITC to be employed as floating storage off Kharg Island, Iran on a 60 day period charter, during which time the "technical holds" were dealt with and lifted. She completed the NITC fixture and was redelivered at Fujairah on 29 June 2008 after which she resumed her normal pattern of spot trading.

Accordingly, despite the time in dry dock only lasting some 10 days, **Astipalaia** was effectively unavailable for her primary trading market for the entire period from 26 March 2008 to 29 June 2008. **Astipalaia** brought a claim for loss of profits based on what the vessel would have earned had she traded on the normal VLCC spot market during that period, giving credit for the mitigation earnings obtained while on charter as floating storage to NITC. The total amount claimed by **Astipalaia** was approximately US\$5,640,000 lost income during that period.

The Reference to the Registrar

Following agreement on liability, the quantum of **Astipalaia's** claim was disputed and referred for determination by the Admiralty Registrar. The Court had to consider how to calculate loss of earnings of **Astipalaia** in circumstances where

(1) the vessel did not have a specific next fixture concluded at the time of the collision such that there was no certainty as to what the vessel would have earned next, but for the collision, and

(2) the vessel's oil major approvals had been placed on "technical hold" and were not reinstated until the end of a less lucrative storage fixture.

Astipalaia's position

Astipalaia's Owners contended that damages should be assessed on the basis that the best evidence of **Astipalaia's** potential earnings, but for the collision, were that **Astipalaia** would either

(i) have been fixed to Indian Oil Corporation (IOC) with whom they had been negotiating for a West Africa-East Coast India fixture at the time of the collision, after which **Astipalaia** would have resumed a 'typical' spot trading pattern of a round voyage from Arabian Gulf (AG) to the Far East, or

(ii) had Owners not secured the IOC fixture, the vessel would have undertaken two AG-Far East round voyages. Under either alternative, these two hypothetical voyages would have been completed within roughly the same period of time as the detention period, i.e.

by 29 June 2008, such that a reasonable comparison could be drawn between what the vessel could have earned during that period, with what she did in fact earn.

Astipalaia's Owners relied on the "time equalisation method" set out in *The Vicky 1* [2008] 2 Lloyd's Rep 45, which they argued supported their approach of comparing what the vessel would probably have earned but for the collision with what she did in fact earn in the same period. The hypothetical voyage schedule advocated by the Astipalaia's Owners and prepared by their expert sought to provide comparable fixtures she could (but not necessarily would) have performed in the detention period in order to place a value on the vessel's lost earnings. On that basis Astipalaia claimed damages of approximately US\$5,640,000.

Hanjin Shenzhen's position

In the *Vicky 1*, the claimant tanker owners had lost an actual fixture. Hanjin Shenzhen's Owners argued that the principles from *Vicky 1* only applied if the claimant ship owner had lost a secured fixture, not where there was no definite next business secured. Their primary case was that the loss period should be split into two distinct periods:

(i) the period during which the vessel was completely out of service, when repairs were being completed; and

(ii) the period during which she performed the floating storage charter. On that basis, Hanjin Shenzhen argued that whilst they were liable in damages for lost income for approximately US\$800,000 for period

- (i) during the dry docking, by the time of the floating storage charter being entered into after dry docking the spot market had in fact fallen such that no damages were recoverable for period
- (ii) as the rates achieved under the floating storage business successfully mitigated Astipalaia's loss.

Hanjin Shenzhen interests also opposed the "time equalisation method" of seeking to model hypothetical voyages on the basis that it was too speculative to seek to calculate when the vessel might have been back in the AG after the first hypothetical voyage, and what the spot rate might have been at that time for the second hypothetical voyage.

During proceedings it was accepted by both experts that VLCCs operate in a well-defined and straightforward trading pattern. The largest loading area (around 72% of all VLCC cargoes) is the AG followed by West Africa, with a limited number of cargoes loading in the Caribbean or North Sea/Mediterranean. The Registrar accepted this evidence, and further evidence that of the 72% of cargoes lifted from the AG, around 70% of those cargoes are for Far East discharge. Accordingly, it could be established on the balance of probabilities what sort of business the vessel most likely would/could have achieved during the total detention period.

The Admiralty Court decision

The Registrar considered and analysed various leading cases, including **The Argentino** (1888) 13 PD 191 (C/A), 14 App Cas 519 (H/L), **The Soya** [1956] 1 WLR 714 (C/A) and **The Vicky 1** [2008] 2 Lloyd's Rep. 45 (C/A).

Having done so, the Registrar accepted Astipalaia's approach to assessing damages. The court upheld Astipalaia's argument that the detention period should include not only the repair period but also the additional period the vessel needed to obtain reinstatement of oil major approvals before returning to her normal employment, and that this detention period should be taken as a single period finishing on 29 June 2008, not broken into two parts. The arguments on behalf of Hanjin Shenzhen that there were principles of law curtailing or precluding such an assessment were rejected. On the basis of the expert evidence before him, the Registrar assessed damages in the total sum of approximately

US\$ 4,960,000 (a loss of earnings of US\$ 9,860,000 less US\$ 4,900,000) earned during the floating storage contract.

Comment

This Judgment confirms that an owner can claim damages not just for the immediate loss of use of the vessel during the period of repairs but also for further knock-on effects to the vessel's ability to return to normal trading, provided of course that such knock-on effects are not too remote or unforeseeable and that the loss can be proven by evidence. The Judgment also confirms that there is no set rule as to the recoverability of damages for loss of use, and that such recovery is not dependent on proof of a specific lost fixture, nor (if such a fixture is established) that damages are limited to that one fixture but no more.

While there is no set methodology for calculating loss of profits, the methodologies used in earlier cases may be adapted to suit the facts of each case. The principles applied in this case were ultimately the same as those applied in *The Vicky 1* and can be said to represent a recognised and well principled approach to modelling a vessel's likely earnings over a given period which properly takes into account the relevant market position as at the time the hypothetical voyages would have been fixed. It should be noted, however, that proving one's loss may be more difficult in other trades. The VLCC trade is sufficiently well established and 'predictable', with enough data published, to allow a meaningful expert analysis of what the vessel could have earned. It would be more difficult to undertake the same exercise for ships with a more varied and unpredictable trading pattern. **Source: Ince & CO**

Inséré le 11/09/14 BOOKS BOEKEN Enlevé le 11/10/14
The Economic and Human Cost of Piracy

Data according to the latest OBP Report 'The State of Maritime Piracy 2013'



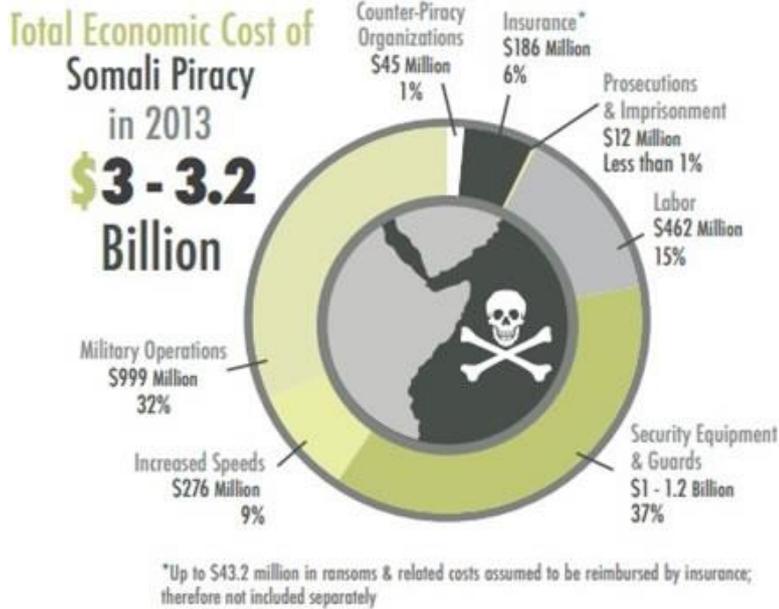
[Oceans Beyond Piracy \(OBP\)](#) has issued its annual report including data for the economic and human costs of African maritime piracy. The study titled "[The State of Maritime Piracy 2013](#)" examines the costs incurred as a result of piracy occurring off the coast of Somalia, as well as in the Gulf of Guinea.

EAST AFRICA

- Overall cost of Somali piracy is down around 50% from 2012.
- Attacks carried out by Somalia-based pirates continued multi-year decline; only 23 vessels were attacked. However, regional seafarers still at high risk.
- The international community spent an estimated \$139.1 million to deter each attack that took place in 2013.
- Despite significant progress in the fight against Somali piracy, the remaining 54 hostages have been held for an average of almost 3 years.

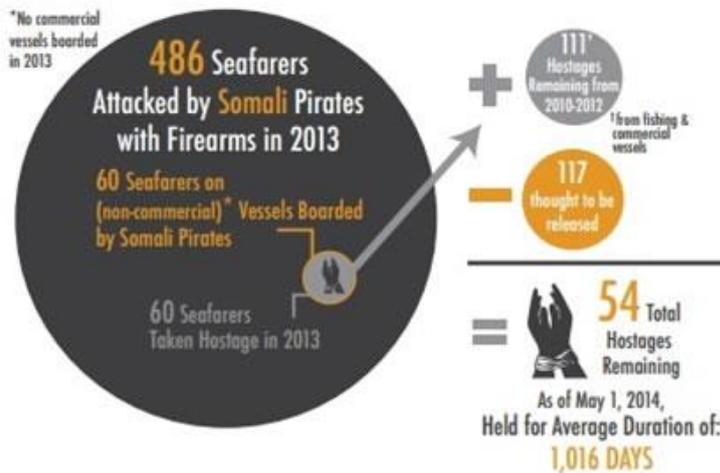
ECONOMIC COST HIGHLIGHTS

COST OF SOMALI PIRACY REDUCED BY AROUND 50% SINCE 2012



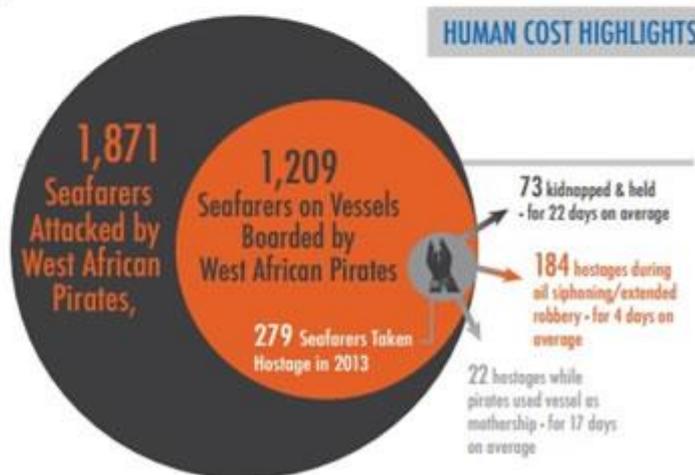
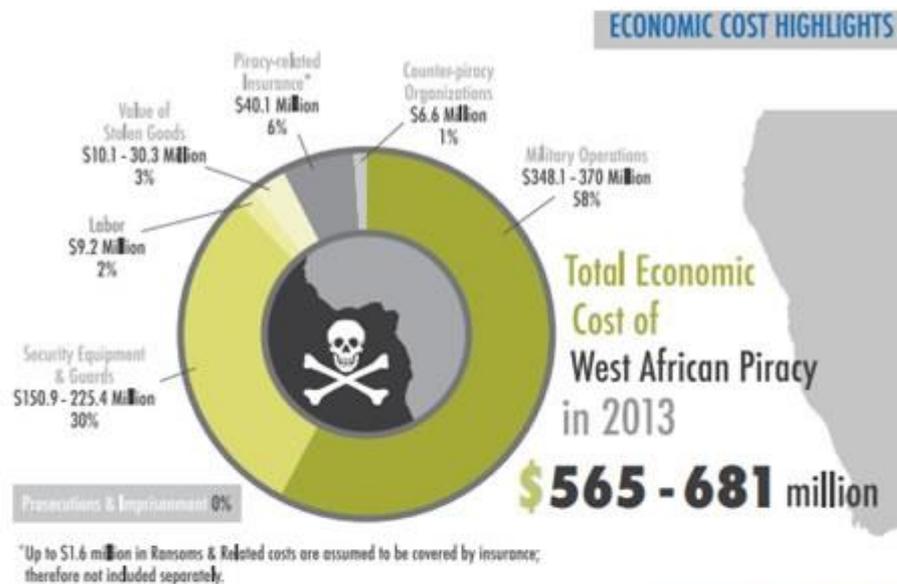
HUMAN COST HIGHLIGHTS

WORK REMAINS TO REACH GOAL OF ZERO ATTACKS/ZERO HOSTAGES



WEST AFRICA

- OBP estimates 100 total piracy attacks in 2013
- The study indicates a shift in 2013 towards more kidnap for ransom attempts and a slight decline in oil theft attacks.
- West African piracy is more closely linked, and harder to differentiate, from other types of maritime crime and criminal activity ashore than Somali-based piracy.
- Piracy reporting and information sharing is largely uncoordinated in the Gulf of Guinea, which could hide the true magnitude of the crimes.



Economic Cost Highlights

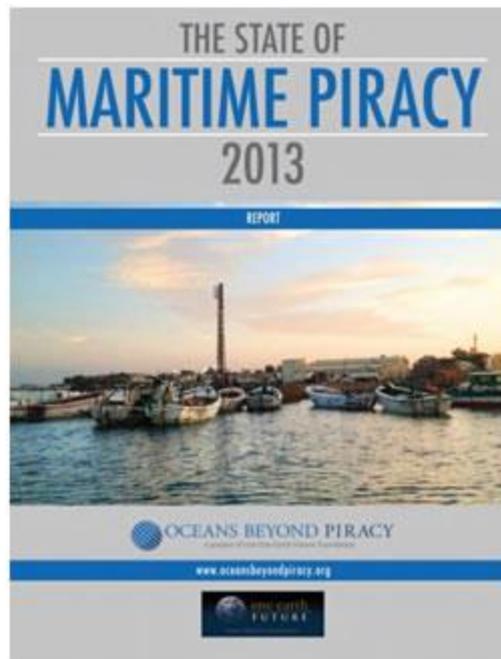
1. Ransom costs are suspected to be higher, but lack of reporting precludes full accounting of ransom and recovery costs.
2. Military Operational costs indicate regional Navy expenditures - international navies are not organized for continuous deterrence and response operations in the Gulf of Guinea.
3. Private security costs are predominately associated with regionally contracted teams from West African nations.

Human Cost Highlights

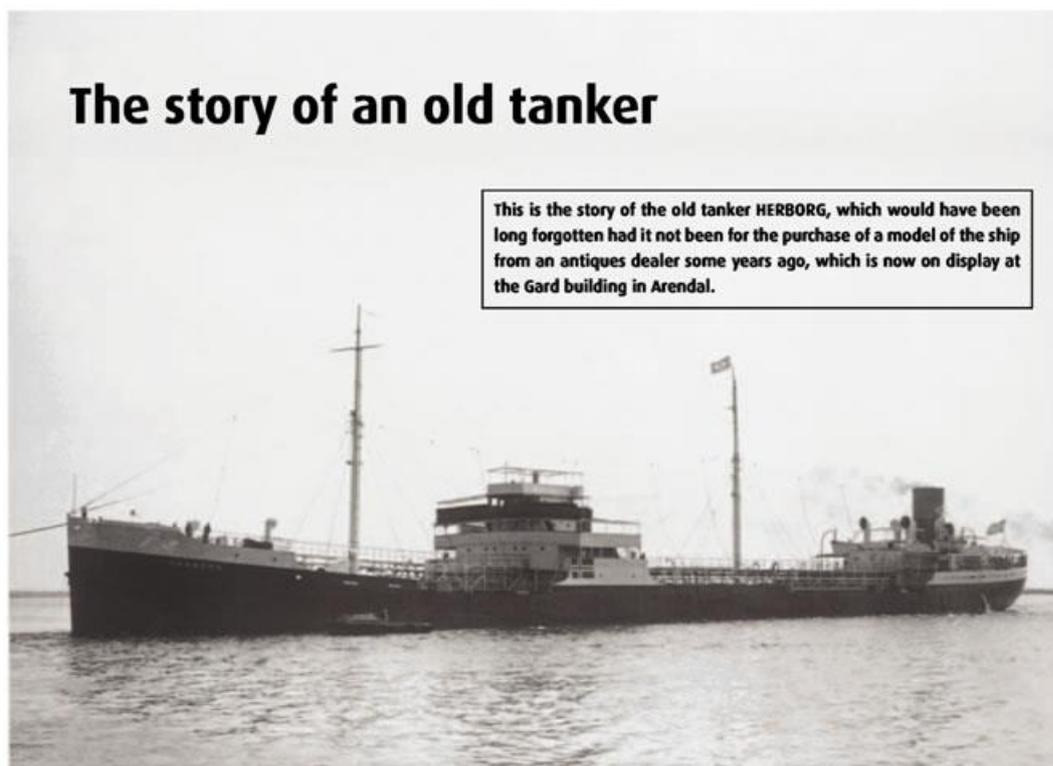
1. Attacks in West Africa in 2013 were much more frequent than those by Somali pirates.
2. Attacks in the Gulf of Guinea are more violent than attacks in East Africa.
3. Longer term affects on seafarers subjected to violence is hard to determine based on a lack of reporting and assessment

More details may be found by reading Oceans Beyond Piracy Report - **The State of Maritime Piracy 2013** (please click at image below)

WEST AFRICA



Inséré le 13/09/14 HISTORIEK HISTORIQUE Enlevé le 13/10/14



Links to the past

The small town of Arendal, where Gard has been located since its creation in 1907, used to have strong maritime connections. Today there are still links to the days gone by among Gard employees. One example is Pål Berglund, who has been with Gard for 32 years.¹ Pål has never served at sea, but has an interest in ships. One day he realised that the beautiful eye-catching model on display at Gard had similarities to a photo inherited from his father. "This looks like the HERBORG", he exclaimed, "a tanker on which my father sailed as a first mate and captain!".

Since then Gard employee Alf Martin Sandberg has researched the history of the ship, which was indeed that of Pål's father, Odd Berglund – a tanker owned by Sigurd Herlofson & Co., which ended her life during dramatic events of the Second World War. Odd Berglund served on board HERBORG from 12th October 1937 until he signed off in Australia on 10th January 1941. He started as first officer (the equivalent to today's chief officer) but was promoted to Captain in 1940, relieving Captain Westad, who came on board again when Berglund signed off.

Berglund went on to serve as Captain on the Norwegian vessel SKAGERAK, and was on board when she struck a mine approaching Suez during a German air attack on the ship at Ismalia. Between September 1942 and November 1944 he was assigned a job as Assistant Superintendent at Nortraship (The Norwegian Shipping and Trade Mission)'s office in Sydney. Thereafter he served on board the US-flagged POINT SAN PEDRO as first officer and finally as Captain on the US-flagged concrete vessel C.W. PASLEY until November 1946. When he finally came home to Norway in early 1947 he had been away from his family for 10 years. His son Pål was born in 1948.

The shipowner

The name Herlofson may ring a bell with readers who have known Gard for some time, as Lai Herlofson, the managing director of Gard between 1970 and 1995, was from this family. His grandfather's brother, Sigurd Herlofson Sr, was born in Arendal in 1879 and established the firm Sigurd Herlofson & Co. in 1926. Sigurd's son was Peter D. Herlofson (1909-1982) and his grandson was Sigurd Herlofson Jr (1937-2007), who took the initiative to build the Tyholmen Hotel in Arendal, where most visitors to Gard stay.

Sigurd Herlofson Sr was first involved in shipping with the firm Grefstad & Herlofson (1907-1916), owning sailing vessels and steamers. He moved to Moss in 1917 and tried his luck as a farmer, until he established the firm Sigurd Herlofson & Co. AS and started anew with the vessel JØLUND. Before the Second World War Sigurd Herlofson & Co. AS operated oil tankers and reefer vessels. It had eight ships, four of which were lost during the war. After the war the firm operated liners, tankers, bulk and oil-bulk-ore vessels, and also got involved in oil exploration. In 1991 the traditional shipowning firm came to an end.

Historically, the firm is first and foremost remembered for having played a particular role in the history of Norwegian oil transportation. In 1927 there were few oil tankers under the Norwegian flag, when the British Anglo-Saxon Petroleum Co. offered for sale no less than 28 old steam tankers, on attractive 10-year-long charter agreements. Among shipowners and brokers there was considerable scepticism towards these tankers, but Sigurd Herlofson was the first Norwegian owner to purchase one of them, the CHITO, in April 1927, and soon after a second one, the CONUS. Others followed, especially owners based on the southern coast of Norway. Twenty-four of the Anglo-Saxon tankers were sold to Norwegians and 17 of them ended up with owners on the southern coast. With an increasing demand for oil, the Norwegian tanker fleet grew to 150 vessels and more than 1 million gross tons in five to six years. The Anglo-Saxon tankers – 23 of which had P&I cover with Gard – were important to the development of Gard's strong position in the tanker market .

The ship



Representatives of the Burmeister & Wain shipyard and the owner Sigurd Herlofson & Co AS, at the time of the naming and launching of the HERBORG in 1931. Note all plates were riveted.

The motor tanker HERBORG was built in 1931 at Burmeister & Wain Maskin & Skibsbyggeri in Copenhagen. She was Sigurd Herlofson & Co.'s second tanker of that name (the name had first been used when renaming the steam tanker CONUS). She was building No. 587 at the yard, 455 feet long, had a beam of 59 feet six inches and a depth of 35 feet. The deadweight was 11,525 tons, not much by today's standard, but a big tanker in 1931. Two six-cylinder single-acting diesel engines of B&W's type 6200-M provided her with 4000 bhp and a service speed of 11.5 knots.

From the model at Gard it can be seen that the tanker must

have been very modern in 1931, with a very streamlined underwater hull aft, two propellers and the engine room aft.

The builder

Burmeister & Wain Maskin & Skibsbyggeri (B&W Engineering and Shipbuilding) was a leading shipyard and diesel engine maker in Copenhagen. Founded by two Danes and an Englishman, the roots of the firm date back to 1846. Having produced paraffin engines from 1890, in 1898 Burmeister & Wain got exclusive rights in Denmark for the manufacture of Rudolf Diesel's new invention, the diesel engine, and delivered their first engine in 1904.

In 1943, the Germans having invaded Denmark, the B&W engine factory was bombed by no less than eight Royal Air Force bombers, dropping four bombs each, to avoid a production of diesel engines for German submarines.

In 1971 the shipyard and the engineering works were split into two independent companies. B&W Diesel AS was sold to MAN of Germany in 1981 and continued trading under the name MAN B&W Diesel AG.

The shipbuilding yard of B&W delivered an incredible 1,002 ships between 1854 and 1996, when it closed down.

Nortraship



Gard's model of the HERBORG. Poop deck and engine room casing aft, with crew quarters below deck. Note that the vessel has a cargo pipeline to the stern.

At the beginning of 1939 the Norwegian commercial fleet was the fourth largest in the world, behind Great Britain, the US and Japan. The fleet had grown to seven per cent of the world tonnage, and as the growth had come mostly from newbuildings, it was a modern fleet and most of the new ships had diesel engines. Forty-two per cent of the Norwegian fleet consisted of tankers, representing 18 per cent of the world tanker tonnage.

As oil is a strategic element in any major conflict, the large and modern Norwegian tanker fleet was of interest to both sides in the Second World War. Although Norway was a neutral state, 58 ships and 400 seamen had already been lost before the German occupation of Norway on 9th April

1940. Upon the German invasion, an attempt to order Norwegian ships to go to neutral or German-controlled ports was unsuccessful. The Norwegian authorities, taking refuge in London, established The Norwegian Shipping and Trade Mission, better known by its telegram address "Nortraship", to administer almost the entire Norwegian fleet outside German-controlled areas. "Nortraship" became the world's largest ship management firm, operating more than 1,000 ships.

When the war was over, 4,375 out of 35,000 Norwegian seamen had been killed and 849 vessels lost, one of them the tanker HERBORG.

The war drama

The HERBORG had her first serious war experience in February 1942. The tanker left Melbourne on 30th January in a convoy aiming to fetch as much oil as possible from Palembang, before the arrival of the Japanese. On 13th February the convoy was out of the Strait heading for Batavia (now Jakarta) with two British destroyers as escorts, when it was bombed by Japanese aircraft. One Dutch tanker was sunk and another was damaged by fire. The HERBORG took the damaged vessel in tow but as the fire restarted, had to abandon her, the survivors having been rescued by the escort. The ships arrived in Batavia the following day, and the HERBORG took over most of the cargo from another Norwegian tanker, the ERLING BRØVIG, which had been hit by a bomb and suffered a fire.

The tanker's next involvement with war activities came half a year later, when she was on a voyage from Abadan in Iran to Freemantle in Australia with 11,000 tons of crude oil on board. In broad daylight she was captured by the German auxiliary cruiser THOR, numbered as HSK IV SCHIFF 10. The THOR was relatively new, having been built in 1938 by Deutsche Werft in Hamburg, and had carried bananas under the name of SANTA CRUZ. She was powered by oil-fired steam turbines and had a design speed of 17 knots. The German Navy used several commercial vessels as raiders, and the reefer vessel was well suited as she could outrun most other cargo ships. Being one of the smaller raiders,

the THOR's cargo ship silhouette was not likely to frighten anyone, but with a main armament of six 15 cm guns, four torpedo tubes, an Arado airplane and, with 350 men on board, she was a warship in disguise. The airplane was used for surveillance and had a hook on a wire to cut the radio antenna between cargo vessels' masts. The plane was also used to rake ships with machinegun fire, to frighten crews into surrender. On her first cruise, from June 1940 to April 1941, the THOR had sunk 11 and captured one vessel. On her second cruise, out from November 1941, she sank seven vessels and captured three, one of them the HERBORG.

The HERBORG met with the raider THOR in the afternoon of 19th June 1942, being shot at by both the airplane and the raider. No one was hurt, but the full crew of 38 left the ship on board the lifeboats and was picked up by the THOR. The chief engineer and seven engine workers were placed on board the HERBORG again, together with a German prize crew, and the vessel sailed to Yokohama, arriving on 9th October after stopping in Batavia.

The way home

Not all details of what happened to each of the 38 crew members of the HERBORG are known, but the following has been compiled from various sources.

In Yokohama the HERBORG was renamed HOHENFRIEDBERG and placed under ownership of Tankdampfer gesellschaft Ossag. Some Norwegian crew members were



A photo from 1939, first officer Odd Berglund on the right.

still on board when the vessel left Japan on 11th November 1942, attempting to reach France. The tanker was met by an escort of three German submarines on 20th February 1943, but was discovered by a USAAF-Liberator 500 nautical miles off Cap Finistère and was subsequently sunk by the British cruiser HMS SUSSEX. The crew and prisoners were taken on board the German submarine U-264 and brought to St Nazaire in France, where the Germans had a large submarine base. The Norwegian seamen spent two weeks in a camp in Wilhelmshafen, and when it was bombed by allied aircraft they were moved to the camp Marlag und Milag Nord near Bremen. At the end of November they were sent home to Norway.

On 4th July 1942 the THOR had also captured the Norwegian steam tanker MADRONO, and a part of the HERBORG crew was placed on board that ship. Nine men from the HERBORG and one from the MADRONO were subsequently transferred from the MADRONO to the German vessel RHAKOTIS. This vessel, which was a combined passenger/cargo vessel belonging to the Hamburg-America Line was then used as a blockade runner. The vessel left Yokohama on 27th September with 23 Norwegians from

the HERBORG, the MADRONO and the steamship AUST, all three vessels victims of the raider THOR.

The RHAKOTIS stopped for cargo at Bangkok, Singapore, Balikpapan and Batavia, before heading for Europe. On 12th December 1942, five hundred miles to the northwest of St Helena, the ship picked up three exhausted survivors from the British CITY OF CAIRO, a vessel which had been sunk by the German submarine U-68 on 6th November. Their lifeboat, one of six, had started off with 54 people on board, but after 36 days they were the only three alive. The only female, just 21 years old, died on board the RHAKOTIS one week later.

However, the ordeal of the captured seamen was not over yet, as the RHAKOTIS, heading for Bordeaux, was spotted by a British airplane and was eventually sunk by the British cruiser HMS SCYLLA off Finistère on 1st January 1943. German submarines were meeting up to escort the blockade runners, but the British Navy was equally interested in stopping them. Fearing the German submarines, the British cruiser did not stop to pick up the survivors, who had left the vessel in four lifeboats. Eighty people from two of the boats were picked up by a German submarine and came ashore in St Nazaire, having experienced an attack by the British on the way. The Norwegians among them were taken to camps in Germany before being sent home. The two other lifeboats from the RHAKOTIS landed on 4th and 5th January at La Coruña, one being towed in by a Spanish trawler. The Norwegians in those boats were sent to Gibraltar and could later serve on other allied ships.

Another part of the HERBORG's Norwegian crew was sent from Japan to Europe in the German vessel DRESDEN, a vessel used to collect prisoners of war. The vessel left Japan on 16th August and reached Bordeaux on 2nd November. The Norwegian seamen on the DRESDEN had a relatively uneventful passage compared to the others, and were taken to Wilhelmshafen, Berlin and Hamburg and finally to Copenhagen. From there they were transported by ferry to Malmö in Sweden and home to Oslo.

Two other Norwegians from the HERBORG are recorded as having been kept as prisoners in Tokyo until freed by US forces on 15th September 1945. HERBORG also had seven Chinese crew members on board when captured by the THOR, but their fate is unknown.

And finally, there is the remarkable story of HERBORG's third officer, Haagen Poppe.

Poppe's war

Haagen Severin Nilson Poppe (1916-1987) was to study for his Master's ticket in Arendal in the autumn of 1939, but was drafted to the Norwegian Navy instead, and spent the winter of 1940 on board the 1892-built HEIMDAL, a nice looking steamer with two tall masts. In 1905, after the dissolution of the union between Norway and Sweden, the HEIMDAL had been given the honour to bring the recently elected King Haakon VII into Oslo. She had been subsequently used as a Royal yacht and coast guard vessel, and from 1939 had served as a Norwegian neutrality watch vessel. Following the German invasion of the important iron ore port of Narvik, the HEIMDAL transported Norwegian troops to the front, and Poppe was involved in his first war action when German planes attempted to bomb her. When the king, crown prince and government of Norway escaped the Germans by fleeing north, they boarded the HEIMDAL from the British cruiser HMS GLASGOW to be taken to Målselv, from where they left for the United Kingdom on 7th June 1940. On that date all serviceable ships and aircraft of the Royal Norwegian Navy received orders to evacuate to the United Kingdom and good old HEIMDAL was one of 13 ships that made it. Poppe sailed with the HEIMDAL and left her in Rosyth, on the east coast of Scotland.



The HERBORG at sea, fully loaded. Photo taken from the bridge, waves rolling across the aft deck.

After being trained as a gunner, Poppe joined the Wilhelm Wilhelmsen cargo ship THERMOPYLÆ, which was involved in a lot of war activities in the Mediterranean, carrying allied troops, war materials, petrol in drums, ammunition, etc., during the German invasion of Greece and the siege of Malta. In 1941 the ship was sunk after leaving Malta, having been bombed by a German JU 88. Three members of the crew were killed, but Poppe and other survivors were picked up by a British escort vessel and brought to Alexandria. Three weeks after the sinking Poppe joined the TARIFA as a gunner and fourth officer.⁵ The TARIFA was on her way to Singapore when Singapore fell to the Japanese, so she was redirected to Australia. There, in April 1942, Poppe joined the HERBORG as a third officer and gunner. When the HERBORG was captured by the THOR on 19th June he was among the crew members taken on board the raider and kept there until 15th August. During this period, the raider captured two other vessels, the British INDUS and the Norwegian MADRONO, mentioned above.

From the raider THOR, Poppe and others were moved to the German blockade runner TANNENFELS, to be transported to Europe. During the voyage the TANNENFELS acted as a supply ship for the raider STIER, with which she tied up in the Atlantic Ocean. A Liberty vessel, the US-flagged STEPHEN HOPKINS, appeared by surprise in foggy weather and the STIER cast off. The gun battle that followed ended up with the STEPHEN HOPKINS sinking while the raider STIER burned and had to be abandoned before she too went down.

During the battle, the TANNENFELS also joined in, raking the US vessel with machine gun fire. The Norwegian prisoners locked up in the bottom of the vessel could do nothing but hope to survive. The TANNENFELS rescued all the survivors from the STIER and with 150 new passengers on board, she reached the mouth of the Gironde on 2nd November.⁷ The prisoners were taken ashore in Bordeaux, where they spent a couple of weeks in a prison camp before being transferred to the camp Marlag und Milag Nord in Bremen. Finally, at the end of April 1943 the seamen from HERBORG were sent to Norway with the German troop transporter LAPPLAND and released.

Upon his return to Arendal in the spring of 1943, Haagen Poppe paid a visit to Odd Berglund's wife, who was the manager of Garanti Skomagasin, a local shoe shop. He

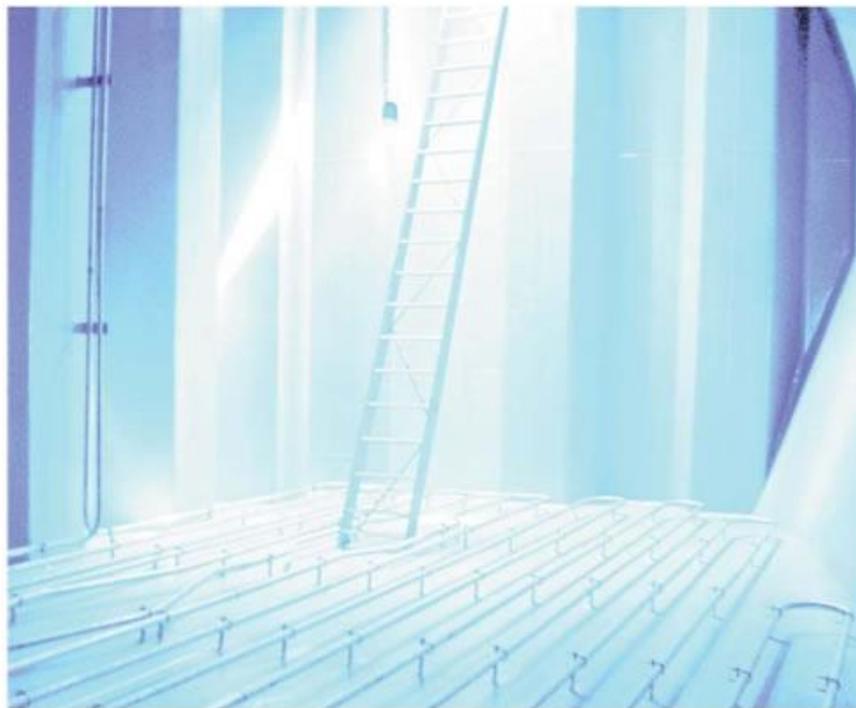
informed her of the fate of the HERBORG and that her husband was safe, having left the ship in Australia on 10th January 1941.

Inséré le 15/09/14 NIEUWS NOUVELLES Enlevé le 15/10/14

APC introduces a low temperature cure cargo tank coating

Advanced Polymer Coatings (APC) launched a new cargo tank coating at SMM - GuardLine LTC – specifically for the product tanker market.

“This new coating will have a major impact in the product tanker market,” said APC chairman Donald Keehan, “especially those tanker owners who trade in the clean petroleum products, biofuels, vegetable and edible oils, and dirty petroleum products markets. Some of these areas are emerging and growing considerably. Shipowners need a versatile and protective tank coating capable of transporting these corrosive products



New GuardLine® LTC cargo tank coating with gloss finish is shown from Advanced Polymer Coatings.

and then easily switching between them, “

APC explained that ‘LTC’ represented ‘low temperature cure’, which is an ambient-cure coating in the range of +25 deg C/+77 deg F. Because GuardLine LTC only requires a low temperature cure, cost savings can be realised by eliminating the extra step of a high temperature forced hot air heat cure, which is necessary for the high chemical resistance of the MarineLine 784 system used for chemical tankers and their more hazardous

cargoes.

GuardLine LTC coating offers greater versatility and chemical resistance than any phenol epoxy, or zinc coating on the market today, at a very comparable cost, the company claimed. In addition, it is virtually absorbent-free with low surface energy, so less cleaning chemicals are needed and less slops are created.

There are also fewer limitations claimed than with conventional coatings and stainless steel tanks. This gives shipowners the opportunity to carry a wide range of profitable cargoes without worrying about the previous cargo residue contaminating the next cargo.

Tank coating milestone

APC also announced that the 500th vessel had had her tanks coated with MarineLine. According to Keehan, this coating milestone was reached during 2012. MarineLine cargo tank coatings, including MarineLine 784, are used worldwide on chemical, product and tank barges to transport a wide range of liquid cargoes.

"We are very proud of reaching this goal of 500 ships coated with MarineLine. This shows that our coating has been of valuable service to the marine industry for many years and has secured its place as a viable and cost-effective solution, compared to stainless steel tanks, or other coatings," Keehan said.

MarineLine 784 uses a forced hot air heat cure to deliver the ultimate cargo tank coating protection on the market today, the company said. This technology is based on a tightly knit, cross-linked organic-inorganic polymer structure that creates a nearly impermeable barrier.

The coating is claimed to outperform stainless steel and all other phenolic and zinc coatings, providing the highest chemical resistance available. Heat curing in the shipyard enables MarineLine 784 coated tanks to carry aggressive cargoes immediately without restrictions, allowing the shipowner to earn premium chartering rates from delivery by carrying the most versatile range of cargoes possible.

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Inséré le 17/09/14 Dossier Enlevé le 17/10/14 Project Horizon — a wake-up call (Part I)

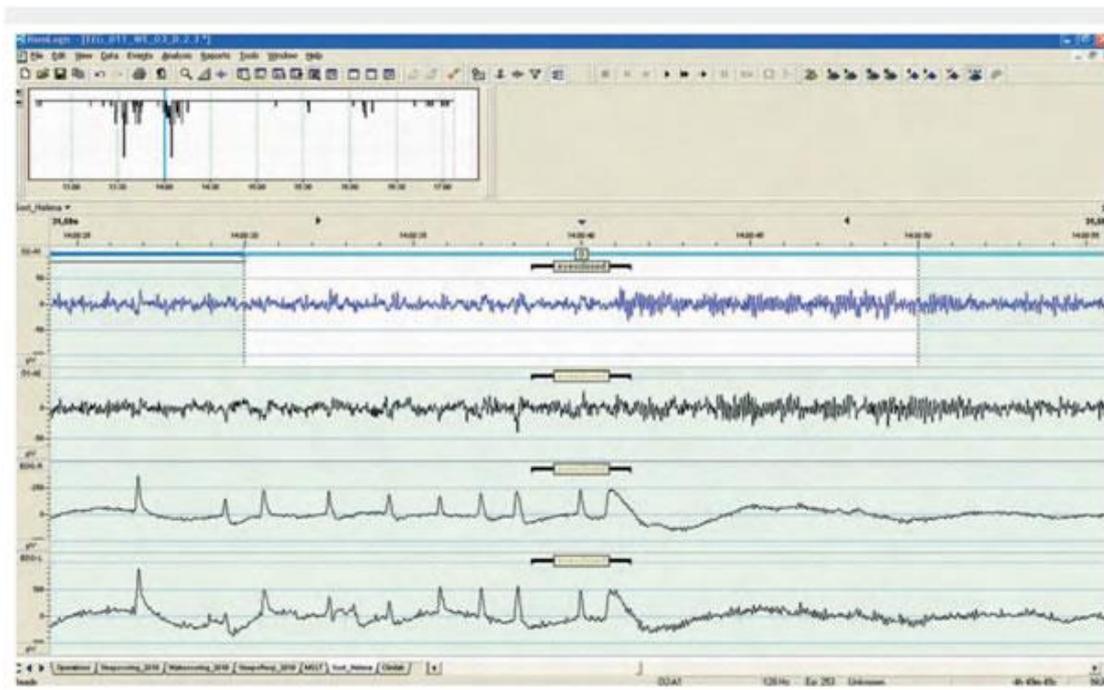
Research into the effects of sleepiness on the cognitive performance of maritime watchkeepers under different watch patterns, using ships' bridge, engine and liquid cargo handling simulators.

This report presents the findings of Project Horizon – a European Commission part-funded multi-partner research initiative to investigate the impact of watchkeeping patterns on the cognitive performance of seafarers. This pioneering research sought to advance understanding of seafarer fatigue through scientific analysis of data drawn from realistic working scenarios using experienced watchkeepers on ship simulators.

The report explains the reasons why the project was considered necessary and how the research was undertaken, as well as presenting the findings and research outcomes.

The project has taken knowledge in this area to a new level, demonstrating conclusively the links between performance degradation and certain patterns of work. The project surpasses previous subjective fatigue studies, delivering validated, scientifically and statistically robust results that can be used to help determine safer working patterns in the interests of the safety of life at sea, the safety and security of the marine transport system and the protection of the marine environment.

A participant's EEG brain activity measurements during a simulated watch



Project Horizon is a major multi-partner European research study that brought together 11 academic institutions and shipping industry organisations with the agreed aim of delivering empirical data to provide a better understanding of the way in which watchkeeping patterns can affect ships' watchkeepers. The broad spread of the project partners ensured expert objectivity of the project and its results, as well as widening routes for dissemination and exploitation of the findings.

The project was established to:

- define and undertake scientific methods for measurement of fatigue in various realistic seagoing scenarios using bridge, engineroom and cargo simulators
- capture empirical data on the cognitive performance of watchkeepers working within those realistic scenarios
- assess the impact of fatigue on decision-making performance
- and determine arrangements for minimising risks to ships and their cargoes, seafarers, passengers and the marine environment.

At the heart of the project was the extensive use of ship simulators in Sweden and the UK to examine the decision-making and cognitive performance of officers during a range of real-life, real-time scenarios of voyage, workload and interruptions. A total of 90 experienced deck and engineer officer volunteers participated in rigorous tests at Chalmers University of Technology in Göteborg, and at Warsash Maritime Academy at Southampton Solent University to measure their performance during seagoing and port-based operations on bridge, engine and liquid cargo handling simulators.

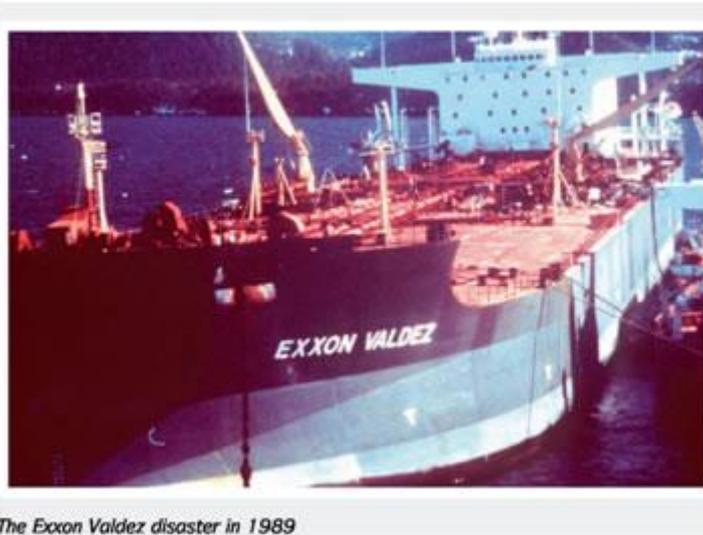
The project sought to take understanding of the issues to a new level with specialist input from some world-leading transport and stress research experts. Academic experts at WMA, Chalmers and the Stress Research Institute at Stockholm University (SU) devised the simulator runs, setting the requirements for fatigue measurement and determining performance degradation measures for watchkeepers, and SU analysed the results from the week-long programmes.

Finally, in response to the research findings, the Project Horizon partners have developed a fatigue management toolkit for the industry, which seeks to provide guidance to owners, operators, maritime regulators and seafarers to assist them in organising work patterns at sea in the safest and healthiest way possible.

Shipping is the ultimate 24/7 industry. Inherently globalised in its nature, the industry is complex, capital-intensive, increasingly technologically sophisticated and of immense economic and environmental significance. More than 80% of world trade moves by sea, almost 90% of EU external freight trade is seaborne, and some 40% of intra-EU freight is carried by shortsea shipping. Around 40% of the world fleet is beneficially controlled in the EEA and EU-registered tonnage accounts for more than 20% of the world total. An average of around four million passengers embark and disembark in 27 EU ports every year – the vast majority being carried by ferries.

The increasingly intensive nature of shipping operations means that seafarers frequently work long and irregular hours. Under the International Labour Organisation regulations (social provisions) it is permissible for seafarers to work up to 91 hours a week – and, under the International Maritime Organisation's STCW 2010 amendments (safety provisions), a 98-hour working week is allowed for up to two weeks in 'exceptional' circumstances. Noise, vibration, sailing patterns, port calls, cargo handling and other activities can all reduce the ability of the seafarer to gain quality sleep during rest periods.

Fatigue is generally understood to be a state of acute mental and/or physical tiredness, in which there is a progressive decline in performance and alertness. The term is often used interchangeably with 'sleepiness', 'tiredness' and 'drowsiness'. Fatigue is often considered to be a generic term, of which sleepiness is one of the major sub-components. In this project, the emphasis has been placed upon 'sleepiness' as the most effective description of the physical and physiological conditions under examination.



The Exxon Valdez disaster in 1989

Seafarers are already usually covered by company, sector-specific, flag state or IMO rules banning or severely restricting alcohol use at sea. Studies have shown that around 22 hours of wakefulness will have a similar effect upon the impairment of an individual's performance as a blood-alcohol concentration of 0.10% – double the legal driving limit in most EU member states.

Laboratory research and studies in other transport modes have demonstrated that severe sleepiness (and even sleep onset) and performance deterioration is

common amongst workers undertaking night shifts.

Fatigue is also an important health issue, with significant evidence to show the way in which long-term sleep loss can be a risk factor in such conditions as obesity, cardiovascular disease and diabetes.

The issue is also one of great relevance to the recruitment and retention of skilled and experienced seafarers. Reducing excessive working hours is of critical importance in delivering working conditions for maritime professionals that reflect the increasingly high levels of training and qualifications required to safely operate modern-day merchant ships.

Factors which result in fatigue include:

- the lack of, or poor quality of, sleep
- working at times of low alertness
- prolonged work periods
- insufficient rest between work periods
- excessive workloads

- noise, vibration and motion
- medical conditions

Project Horizon was established in response to growing concern about such issues and the increased evidence of the role of fatigue in maritime accidents. The project is therefore closely aligned to the FP7 (Sustainable Surface Transport 2008 RTD-1 call) aims of increased safety and security, and reduced fatalities.

Over the past 20 years, the shipping industry has become increasingly aware of the importance of the 'human factor' in safe shipping operations. Marine insurance statistics have shown 'human error' to be the key contributory factor in around 60% of accidents – with other research suggesting that the figure is as high as 80% to 90% in the case of collisions and groundings. Such statistics have generated a growing impetus to investigate the nature of the human factors that may contribute to the causal chain in shipping accidents.

The increased complexity of ships' systems and the growing technological sophistication of onboard equipment have placed greater emphasis on the performance of seafarers – and watchkeepers in particular. The marked increase in the size of passenger ships and cargo vessels has also highlighted the



The Jumbo grounding in 2003

potential for substantial loss of life or pollution in the event of an accident. Extrapolation of UK Marine Accident Investigation Branch statistics on the role of seafarer fatigue in shipping accidents between 1993 and 2003 suggests that significant economic savings could be made if the number of tiredness related accidents is reduced.

As awareness of the importance of the human factor in shipping has grown, recognition of the role of fatigue in maritime safety has also increased. There have been a number of high-profile and often costly and damaging casualties in which seafarer fatigue has been shown as a key causal factor. These include:

- the Exxon Valdez tanker disaster in 1989. the US National Transportation Safety Board found that in the 24 hours prior to the grounding of the ship, the watchkeeper had only had 5 or 6 hours of sleep
 - the grounding of the feedercontainership Cita in the Isles of Scilly in March 1997, after the mate fell asleep and the ship sailed for two and a half hours with no one in control
 - the grounding of the general cargoship Jambo in Scotland in June 2003, after the chief officer fell asleep and missed an intended change of course
 - the grounding of the bulk carrier Pasha Bulker near the port of Newcastle in Australia in June 2007, in which an investigation report stated that 'the master became increasingly overloaded, and affected by fatigue and anxiety'
 - the death of a Filipino AB in a fall onboard the Danish-flagged general cargo ship Thor Gitta in May 2009. Investigators who used FAID fatigue assessment software found that the seafarer's 6-on/6-off work pattern was at a score of 111 on the morning before the accident – a level considered to be in the very high range
 - the grounding of the bulk carrier Shen Neng 1 on the Great Barrier Reef in April 2010. The Australian Transport Safety Bureau investigation found that the grounding occurred because the chief mate did not alter the ship's course at the designated position. His monitoring of the ship's position was ineffective and his actions were

affected by fatigue. Investigations showed that he had only two and a half hours sleep in the 38.5 hours prior to the casualty.

Concern about such incidents was also mirrored by a growing weight of evidence gathered from research among seafarers. It is generally accepted that fatigue at sea has been subjected to considerably less research than in other modes of transport or safety-critical industries, but from the 1980s onwards increasing academic attention was paid to working hours in the maritime sector – with a 1989 Medical Research Council report on hours of work, fatigue and safety at sea, by Professor ID Brown, serving as something of a watershed. In 1990, a report on shipboard crew fatigue, safety and reduced manning, by JK Pollard, ED Sussman and M Sterns noted that work at sea is characterised by longer working weeks, more non-standard work days, extensive night operations, and periods of intense effort preceded by periods of relative inactivity.

In 1995, the UK National Union of Marine Aviation & Shipping Transport Officers (NUMAST) published the result of a survey of 1,000 officers. Just over three-quarters of those surveyed said they believed that fatigue had increased significantly in the previous three to 10 years. In a further survey of 563 members, NUMAST found 50% reporting that they worked more than 85 hours a week.

A 2006 report on one of the most extensive research projects, carried out by the Centre for Occupational and Health Psychology at Cardiff University, found evidence that as many as one in four watchkeepers reported having fallen asleep on watch. As many as 53% of respondents reported having no opportunity to have six hours of uninterrupted sleep. A Swedish survey carried out in 2008 and 2010 showed that about 70% of officers had nodded off on watch one or more times during their career.

Another significant research study was published by the UK Marine Accident Investigation Branch (MAIB) in 2004. This analysed the role of fatigue in 66 collisions, near-collisions, groundings and contacts investigated between 1989 and 1999. Fatigue was considered to be a contributory factor to 82% of the groundings in the study which occurred between 0000 and 0600 and was also a major causal factor in the majority of collisions.

This latter point was also highlighted in research published by the Karolinska Institute in Sweden in 2004, which found levels of sleepiness to be highest during the 00:00 06:00hrs watch period.

In 2005, a report published by TNO in the Netherlands, recommended the setting up of a framework for the development of a fatigue management programme or tool to help shipping companies to take measures to manage fatigue.

Other seafarer fatigue studies have also highlighted such factors as:

- the long working hours experienced by many crew members
- problems in gaining quality sleep
- the impact of watchkeeping patterns: notably six hours-on/six hours-off
- stress and workloads
- frequent port calls and associated cargo work
- tour lengths

Against this background, Project Horizon seeks to address the marked concerns over the increasing human, financial and environmental impact of maritime accidents which frequently cite fatigue as a contributory cause. This is an issue of critical importance at a time when the high demand for shipping capacity has led to national and international shortages of well-qualified and experienced seafarers.



Project Horizon research has been based on very rigorous scientific principles, involving unprecedented and cutting-edge use of deck, engine and cargo handling simulators to create realistic seven-day simulated voyage scenarios for the volunteer officers.

The study was focussed upon two of the most common watch schedules used at sea: six hours on watch followed by six hours off (6-on/6-off) and four hours on followed by eight hours off (4-on/8-off). The 6-on/6-off pattern is most common on smaller ships, often operating in shortsea and coastal trades and often operating with just two officers onboard.

The simulator voyage plans were designed to ensure a high degree of authenticity, including variable workloads, port visits, mandatory reporting points, and passing traffic.

The studies were carried out using the simulators at Warsash Maritime Academy in the UK and Chalmers Technical University in Sweden. At Warsash, the effects of the 6-on/6-off schedule were observed for deck and engine watchkeepers, whilst at Chalmers the tests examined the effects of 4-on/8-off and 6-on/6-off watches on deck watchkeepers only.

Before the simulator runs began at Chalmers and Warsash, extensive pilot tests were conducted to

ensure the methodology was right and a Simulation Protocol Handbook was produced.

	Chalmers		Warsash	
	4-on/8-off	6-on/6-off	Deck	Engineroom
n	30	19	20	20
# of men	29	18	20	19
# of women	1	1	0	1
Age (years)	30 ±6	34 ±12	30 ±7	32 ±8
Married	60%	47%	65%	65%
Children	37%	42%	15%	45%
Years at sea	7	11	8	9
Weight (kg)	82 ±9	87 ±11	79 ±8	75 ±9
Height (m)	1.81 ±0.06	1.82 ±0.06	1.75 ±0.05	1.73 ±0.08

Table 1

A total of 90 officers were recruited to undertake the simulated voyages. All those taking part were appropriately qualified and experienced deck and engineer officers from west and east Europe,

Africa and Asia. The mix of nationalities and gender (87 males and three women) provided a representative cross-section from the industry and all participants were required to be in good health, with no sleep disorders. The volunteers were recruited through advertisements and crewing agencies as if they were going to sea and during the tests they lived as close to a shipboard life as possible – in institutional-style cabin accommodation at WMA and onboard an accommodation vessel at Chalmers. During the runs, there were a number of imposed restrictions and participants were allowed up to four cups of coffee a day, and no alcohol was permitted.

The total time spent 'working' during the week-long simulator runs was 64 hours for those on 4-on/8-off and 90 hours for 6-on/6-off participants (including at Chalmers an interrupted off-watch period). In that experiment, participants were randomly assigned to a watch system and a simulator and were told in advance that one of their free watches would be interrupted – although they were not told which one it would be. During the interrupted off-watch period, participants were

supervised and had to undertake a mix of cargo operations simulator work and 'paperwork', including reading and watching the TV. They were not allowed to sleep during this period. This element of the programme was introduced to simulate real-world conditions, in which work patterns may be interrupted by such factors as port visits, inspections, cargo work, drills and emergencies. To balance the experiment design, one watch system had this disturbed off-watch period in the first part of the week, and the second session with the same watch system had it in the second part of the week.

The test methodology was rigorous. Cameras tracked and recorded participants' every movement on watch, producing an enormous database of activity, while supervisors were able to observe remotely on CCTV monitors.



A 'near-miss' incident during the simulated voyage

Instructors were able to oversee the 'voyages', not only monitoring performance but also acting as 'masters' and 'chiefs' during handovers and in cases where intervention has been required to prevent an accident. The policy was one of minimal intervention, but instructors could not allow a collision, grounding or other major incident to occur as this would have prevented the completion of the exercise under experimentally controlled conditions.

controlled

The following data were collected:

- Actigraphy – participants wore the Actiwatch, a device that measures acceleration and enables physical activity and sleep duration to be calculated
- Electroencephalogram (EEG), electrooculogram (EOG), and electrocardiogram (ECG) – recordings of brain activity, eye movements and heart rates
- Psychomotor Vigilance Test (PVT) performed, using standard hand-held equipment, before and after each watch. The test involved participants having to press a button to record when they see a target presented on a screen at random intervals. Each test lasted approximately five minutes and the reaction time, the number of lapses, and the mean reaction time were all recorded and stored on the device
- Karolinska Sleepiness Scale (KSS)
- Karolinska Drowsiness Test (KDT) – administered at the end of a watch, when participants' EEG measurements were taken as they were asked to stare at a black spot on a wall for five minutes and then to close their eyes for five minutes
- Stress scores
- Stroop test – in which participants were sat at a laptop computer on which the names of two different colours (green and red) were shown on the screen. Participants had to click on the colour name as quickly as possible, ignoring the meaning of the word displayed
- Evaluation of general watchkeeping performance during navigation, engine room and cargo operations
- Evaluation of performance in 'specific' repeatable events

- Demographic data (background questionnaire)
- Sleep and wake diary
- Ship's logbook
- Temperature in simulators and quarters
- Videos in all simulators
- Debriefing interview

Data on participants' alertness and sleepiness was amassed using both subjective and objective research methods. The subjective information was drawn from the three diaries participants were asked to keep: a sleep diary filled in on waking up; a work diary they completed during the watch; and a wake diary completed during the off-watch period. Data collected covered:

- Work diary
- Food intake
- Symptoms of fatigue during work shift
- Work (difficult/easy)
- Satisfaction with own performance
- Workload
- nodding off Wake diary
- Food intake
- Type of activity during free time
- Symptoms of fatigue
- Wellbeing (health)
- Recuperation Sleep diary
- intake of coffee
- intake of medications
- awakenings
- difficulty to fall asleep
- sleep quality
- waking up early
- easiness to get up
- disturbed sleep
- time awake during sleep period
- depth of sleep
- anxiety
- special occurrences
- reason for waking up
- comments

In the watch diary, participants indicated how they felt at various points on duty using the Karolinska Sleepiness Scale. This ranges from 1 for 'extremely alert' to 9 for 'very sleepy, great effort to keep awake, fighting sleep'. This scale has been validated against road driving accidents and electroencephalogram (EEG) changes characterising sleep.

For two 24-hour periods the participants wore 10 scalp electrodes and ambulatory recorders of the EEG, which is the gold standard for measuring sleep and thus the absence of watchkeeper performance if it appears. They also wore Actigraph activity measuring devices to record brain and physical activity throughout the week, as well as being subjected to psychomotor vigilance tests (PVT) to check their reaction times at the beginning and end of each watch. The latter is considered the gold standard for behavioural fatigue measurement.

At two stages of the 'voyage', the participants wore 10 electrodes that measure their brain activity, over two watch periods and two sleep periods. Data obtained allows experts to analyse cognitive performance at key stages and can also show instances of 'microsleep'. Data recorded from the off-watch periods was especially valuable, as it enabled an objective picture to be obtained of exactly when participants fell asleep and the quality of the sleep they obtained.

At Chalmers, navigation simulations were carried out using two different watch schedules: 30 seafarers were assessed over 4-on/8-off schedules, and 20 were monitored on 6-on/6-off patterns. The voyage pattern was based on a simulated voyage in a small coaster and cargo simulations replicating a 210,000dwt VLCC.

The data gained from these different patterns were analysed separately. The two-watch runs also included a section involving the disturbance of a single free watch, in which no sleep was allowed to enable the investigation of the effect additional workloads arising from a port visit.

At Warsash, bridge and engineroom simulators were used to investigate the effects of 6-on/6-off work patterns. Cargo handling simulations were carried out at both locations.



The simulated voyage undertaken by Project Horizon participants

At Warsash, the simulators were linked up, so that the participants sailed a 17,071dwt product tanker from Fawley to Rotterdam and back again, twice, with a varied workload including cargo loading and discharge, and picking up pilots.

The simulations included some 'distinctly boring' sections as well as a number of realistic events and incidents, including:

- keeping the ship's logbook
- marking positions on a chart
- exchanging information at the end of a watch
- radio communications
- close-quarters situations
- a 'man overboard' from another ship
- a gyro-compass error
- machinery alarms

Using simulators allowed the researchers to 're-set' the voyage at the end of each watch, so that the watchkeeper coming on duty repeated the section of the voyage just completed by the previous participant. As 'handovers' were conducted by staff members acting in the role of master or chief engineer, the participants were unaware that the voyage sections were being repeated in this manner. The standard test conditions and replicated situations enabled the researchers to make valid comparisons, under statistically robust conditions, monitoring the way in which the volunteer officers reacted and how their judgement and performance were affected at different times during the week.

Volunteers' performance was also checked by a wide range of indicators – with lecturers monitoring such things as their behaviour, body language and ability to pass on 10 standard items of information at each watch handover.

During each bridge watch, participants were observed and rated by the simulator operators. The scoring system covered the general performance over the whole watch, the watch handovers, 'special' events – such as certain close-quarters situations – and 'unplanned' events – such as unintentional 'near-misses' with other vessels. The evaluation of watchkeeping performance was based on both expert rating (for example, how well the collision prevention regulations were followed) and objective scores (for example, the number and timing of positions marked on the chart).

The cargo work simulations enabled supervisors to monitor performance on a range of standard task indicators, including:

- correct sequence of events
- avoidance of 'forbidden' operations
- control of bending moments, shear forces and list
- ballast handling
- stability control
- monitoring pressures and temperatures

Similarly, engineroom performance was rated on a wide range of indicators, including:

- standard watchkeeping duties
- adherence to standing orders and chief engineer's orders
- logbook entries
- communications with bridge
- quality of information at handovers
- dealing with 'incidents' including main engine exhaust gas temperature deviation, changing over of alternators, high scavenge air temperature on main engine, boiler flame failure, high engineroom bilge level, high differential on sea water inlet strainer, fluctuating main engine fuel viscosity, and an earth fault (with request to start up other machinery while earth fault is present)

In presenting the research findings, variables that were measured once per watch were analysed using repeated measures analysis of variance (Anova) with day (1 to 7) and watch (first or second watch of the day) as 'within subject' factors and watch team (working 00:00 to 06:00 or working 06:00 to 12:00) as 'between subject' factors. Variables measured at the start and end of every watch (PVT) also included those timepoints as 'within subject' factors, and variables measured on an hourly basis (KSS and stress) included hours in watch as a 'within subject' factor.

For the Warsash runs, the analysis was carried out separately for the deck and the engineroom teams. For the Chalmers runs, analysis was carried out separately for the two watch systems (4-on/8-off and 6-on/6-off).

Inséré le 19/09/14 BOEKEN BOOKS Enlevé le 19/10/14

Pilote de mer



Livre Pilote de Mer

Jean-Pierre Le Floch est pilote maritime dans un grand port de France. Sa mission consiste à faire entrer ou sortir les navires venant faire escale. Dans tous les ports du monde, les navires ont l'obligation d'accueillir à bord un pilote sans qui ils ne peuvent atteindre le quai.

Cette nuit-là, dans le gros temps, Jean-Pierre monte à bord d'un vraquier qui doit relâcher dans le port. Au même moment, « Jipé » est pris dans les remous de sa vie sentimentale, ne pouvant s'empêcher de reprocher à son épouse tous les maux qu'il subit dans leur couple.

Alors que l'approche du navire se déroule au mieux compte tenu d'une météo difficile, une grave avarie survient et met le navire en péril. S'engage aussitôt un combat contre les éléments et contre la fatalité pour sauver le bateau. Dans cette volonté de vaincre, Jean-Pierre puise des ressources insoupçonnées pour mener son couple à bon port.

Prix:

Prix : 15,00 €
Prix HT : 14,22 €

Le mot de l'auteur

Jusqu'à Pilote de mer, aucun roman sur la mer n'avait été consacré au pilotage maritime. Cette activité essentielle dans la chaîne portuaire d'aujourd'hui reste méconnue du public. Mais tout marin naviguant sait l'importance de ces pilotes disponibles et compétents. Ce métier complexe et prenant en fait un sujet suffisamment singulier pour un roman maritime. Alors dans l'écriture d'un autre livre (dont il reprend le chantier actuellement), Philippe Metzger pose mi-2012 les premiers principes d'une histoire : tard dans la nuit, un pilote basé dans un grand port prend en charge un navire alors qu'une tempête se lève ; pendant la manœuvre, survient une panne majeure ; dans le même temps, le héros subit une tourmente personnelle, conséquence d'une tension au sein de son couple. L'idée est de respecter une unité de temps, de lieu et d'action, tout en faisant fonctionner la pensée du héros avec ses mécanismes de mémoire et de projection. De fait, la vie en mer est composée de brefs instants d'action au cours desquels s'exerce, souvent dans des conditions délicates, le métier et de moments où la pensée s'exprime sans qu'elle n'altère la qualité du travail. Philippe Metzger joue sur cette dualité bien connue des marins et souhaite ainsi la partager avec ses lecteurs, en particulier ceux qui ignorent tout du monde maritime. En outre, le sentiment amoureux se prête bien à ce sujet : la volonté de vivre à deux tient aussi à une alchimie complexe, qui repose sur des

désirs parallèles plus ou moins proches pourtant maintenus ensemble par un lien indéfectible. C'est ce qu'explore l'auteur en confrontant le couple à l'absence du marin, à la passion de ce dernier pour le large et à l'indéfinissable particularité de la vie en équipage. Le travail d'écriture s'affine avec le temps. Par exemple, pour Philippe Metzger, le choix précis d'un grand port constitue un frein, n'apportant rien au récit. Partant du principe qu'il est plus facile d'adapter le décor à l'histoire que l'inverse, il opte pour une géographie imaginaire mais réaliste afin qu'elle réponde aux exigences de l'action. La mécanique du récit, alternant les actions en temps réel et les pensées du héros, se met alors plus efficacement en place. Un autre point clé de la rédaction concerne la description exacte des techniques maritimes. Marin affichant quelques milliers d'heures de navigation, l'auteur s'interroge sur les technicités du pilotage qu'il ne maîtrise pas, bien qu'il les visualise pour les avoir vécues. Il fait appel à son ami Frédéric Moncany de Saint Aignan, président de la Fédération française des pilotes maritimes, qui lui apporte, outre son enthousiasme pour cette histoire romanesque, un conseil continu et précieux lui évitant erreurs et inexactitudes à l'origine de grands déboires auprès des lecteurs avertis. La suite relève de l'élaboration traditionnelle d'un livre, avec ses moments d'envolées et ses périodes de creux, les activités professionnelles denses pesant sur la fluidité du travail d'écriture. La rencontre avec Cent Mille Milliards constitue une étape importante pour la naissance de Pilote de mer : avec le soutien de cette jeune maison d'édition, l'auteur trouve un rythme renouvelé et achève son manuscrit qu'il remet fin 2013 à l'éditeur.

Inséré le 19/09/14 NIEUWS NOUVELLES Enlevé le 19/10/14

Denmark is putting ballast water exemptions on the agenda at the IMO

When the IMO's environment committee, the MEPC, next meets in October, exemptions from the forthcoming ballast-water convention for ferries and others will be discussed at Denmark's behest, Danish Maritime Authority said in its press release. Danish shipping companies have invested billions of kroner in green technology in recent years and are prepared to make even greater investments as a result of forthcoming environmental regulation measures. But regulation must benefit the environment or else the investment becomes meaningless. This applies to ballast water, an area in which the international IMO convention is expected to receive the required support this year, enabling it to enter into force 12 months later. As the law stands currently, the convention will cover all international shipping, including, therefore, for example, the 4 km-long ferry route between Helsingør in Denmark and Helsingborg in Sweden. The legislation makes good sense for long international routes, but not for ferry traffic and other small-scale local shipping, according to Peter Olsen, who is Head of Secretariat for the Danish Car Ferry Association, and responsible for ballast water at the Shipowners' Associations. "There is a risk of imposing a financial burden of several million kroner per ship without there being any demonstrated risk presented by spreading seawater from one port to a neighbouring port in the same sea," he says. The consequence may be that ferries have to invest in equipment for purifying ballast water, despite the fact that it is inconceivable that they will spread invasive animal species – such as certain types of crustaceans – over such a short distance. The convention does include a few potential exemptions, but, on closer

inspection, these have turned out to be impractical and the conditions are too restrictive in relation to local shipping. Denmark, in the form of the Danish Maritime Authority and the Danish Nature Agency, plus the Shipowners' Associations, has now together with Interferry approached the International Maritime Organization (IMO), in order to get the possibilities for exemptions for local shipping onto the agenda for the forthcoming meeting of the IMO's environment committee, the MEPC, in October. "It would defy logic if it wasn't possible to make exceptions for ships undertaking certain international voyages. Until now, the Danish side has stood very much alone in raising this relevant issue in Europe, but we hope that this new initiative will ensure that a pragmatic solution is reached before the convention comes into force," says Peter Olsen. **Source : Port News**

Inséré le 21/09/14 DOSSIER Enlevé le 21/10/14

Project Horizon — a wake-up call (Part II)

Karolinska Sleepiness Scale (KSS)

Sleepiness was rated every hour on the KSS self-rating scale, which has been validated against EEG measurements. The KSS scale varies from 1 to 9, with Score 1 representing highest alertness and Score being close to falling asleep. The KSS ratings are:

1. Extremely alert
2. Very alert
3. Alert
4. Rather alert
5. Neither alert nor sleepy
6. Some signs of sleepiness
7. Sleepy, but no effort to keep alert
8. Sleepy, some effort to keep alert
9. Very sleepy, great effort to keep alert, fighting sleep

Chalmers 4-on/8-off

Sleepiness scores were found to differ significantly between the first and the second watch of the day. The difference was highest in the team working 04:00 to 08:00 (4.1 ± 0.3 versus 2.9 ± 0.3) and virtually absent in the team working 08:00 to 12:00 (3.8 ± 0.4 versus 3.7 ± 0.3).

Sleepiness was also found to peak at the end of the watch (4.1 ± 0.2), with the three way interactions and the pattern of results indicating that maximum sleepiness is reached towards the end of the 00:00-00:04 watch, closely followed by the 04:00-08:00 watch.

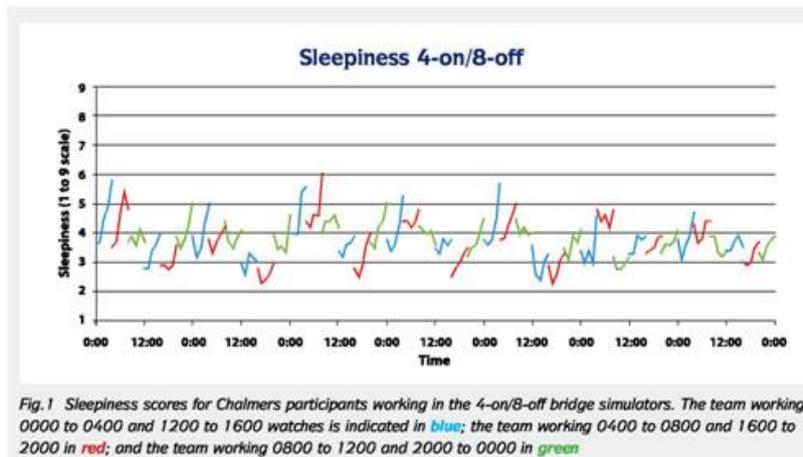


Fig.1 Sleepiness scores for Chalmers participants working in the 4-on/8-off bridge simulators. The team working 0000 to 0400 and 1200 to 1600 watches is indicated in blue; the team working 0400 to 0800 and 1600 to 2000 in red; and the team working 0800 to 1200 and 2000 to 0000 in green

Lowest sleepiness scores

occurred in the afternoon or early evening watches.

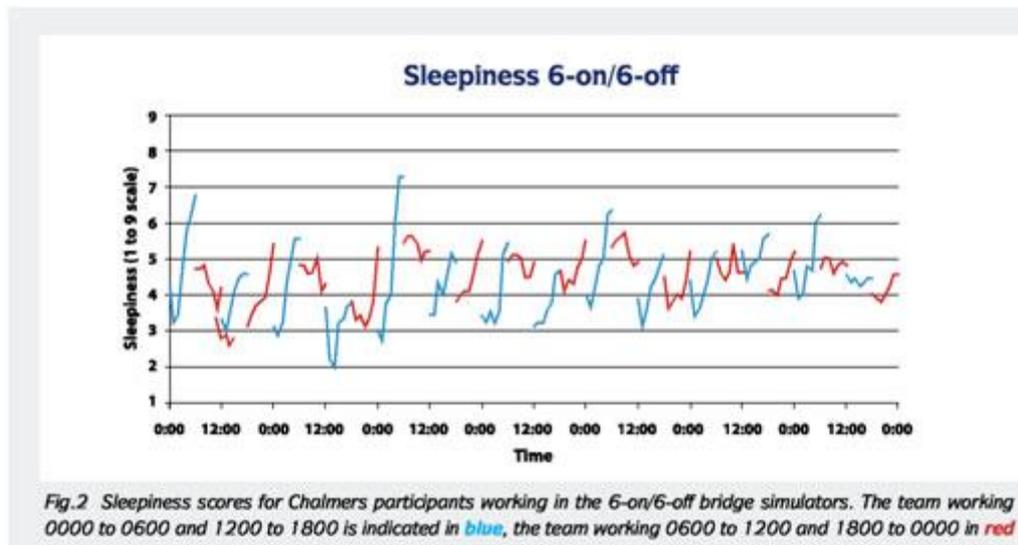
Chalmers 6-on/6-off

Within subjects, sleepiness scores were found to be significantly higher during the first watch of the day than the second (4.6 ± 0.2 versus 4.0 ± 0.2). Sleepiness scores also differed based on the hours in watch – being lowest after one hour in watch (3.7 ± 0.2) and highest at the end of the watch (5.1 ± 0.3). A more complex three-way interaction between watch, hours in watch, and watch team was observed ($F(3.95, 51.40) = 10.88$, $p < 0.001$). Effect of the off-watch disturbance.

In both watch systems, the off-watch disturbance had a profound effect on sleepiness. In the 4-on/8-off system, sleepiness levels were higher during the watch following the disturbance (6.5 ± 0.3) compared with the control watch (4.2 ± 0.2) in the other half of the week. A similar pattern was observed in the 6-on/6-off system, with sleepiness levels being considerably higher following the off-watch disturbance (6.7 ± 0.4) than during the control watch (4.6 ± 0.3). No interactions were observed, indicating that the effect was similar in all watch teams.

A higher rate of sleep on watch 4-on/8-off versus 6-on/6-off

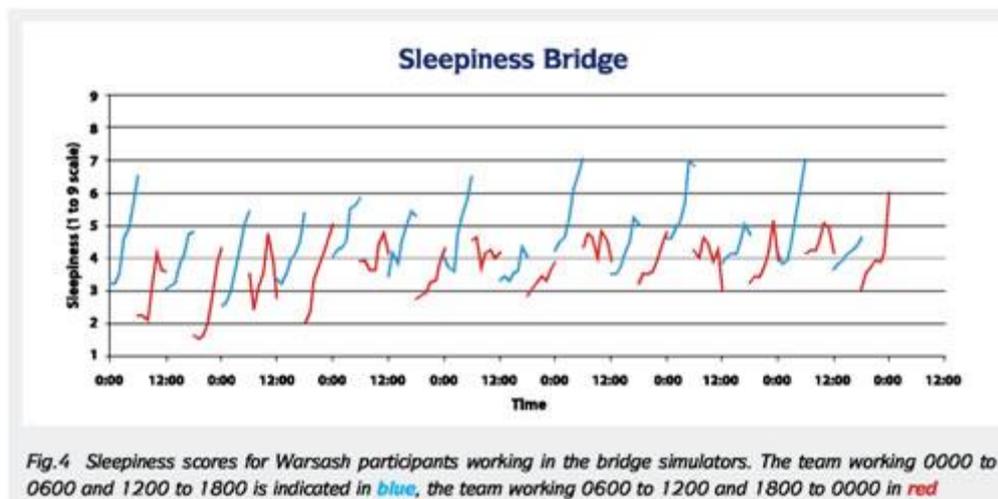
Sleepiness levels differed between the two watch systems, being found to be higher in all watches and for all teams in the 6-on/6-off watch system (4.6 ± 0.2) than in the 4-on/8-off watch system (3.9 ± 0.2). Higher rates of sleep on watch were found in the 6-on/6-off teams than in the 4-on/8-off participants and sleep duration was found to be longer for those on 4-on/8-off than in the 6-on/6-off pattern.



Warsash

deck

Within subjects, sleepiness scores differed significantly across the days of the week, being lowest on day 1 (3.1 ± 0.3) and highest on both days 5 and 6 (4.3 ± 0.4). Sleepiness scores were also found to be higher during the first watch of the day than the second (4.1 ± 0.3 versus 3.6 ± 0.3). Sleepiness scores also differed based on the hours in watch, ranging from 3.3 ± 0.3 at the start to 4.8 ± 0.3 after 5 hours in watch. Sleepiness levels were also shown to have increased during the course of the week. Daily sleep durations were found to total between 6 and 7 hours.



Warsash

engineroom

Sleepiness scores differed significantly across the days of the week, being lowest on day 2 (3.5 ± 0.2) and highest on day 7 (4.3 ± 0.3). Scores were also found to be higher during the first watch of the day than in the second (4.2 ± 0.3 versus 3.5 ± 0.3). Sleepiness was found to increase during the watch period, with scores ranged from 3.3 ± 0.3 at the start to 4.5 ± 0.3 after 5 hours in watch. Sleepiness levels were also shown to increase during the course of the week.

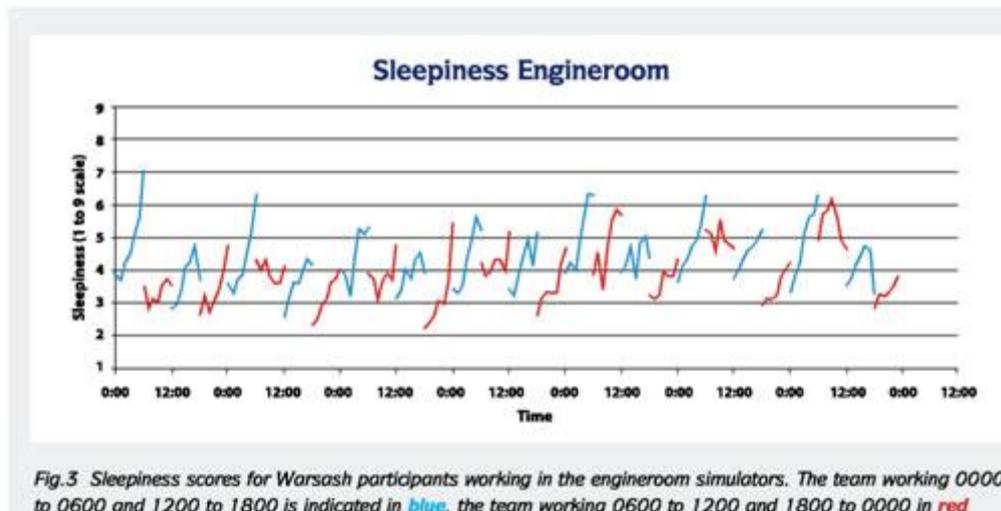


Fig.3 Sleepiness scores for Warsash participants working in the engineerroom simulators. The team working 0000 to 0600 and 1200 to 1800 is indicated in blue, the team working 0600 to 1200 and 1800 to 0000 in red

Deck versus engineerroom
Overall sleepiness ratings did not differ between the bridge and the engineerroom.

Conclusions

- overall, more sleepiness was recorded during the first watch of the day – especially among deck teams
- sleepiness was found to increase with time in watch
- the off-watch disturbance instantly increased sleepiness
- on the whole, sleepiness levels were higher in the 6-on/6-off system than in the 4-on/8-off system
- sleepiness levels did not significantly differ between deck and engineerroom
- sleepiness levels consistently peaked between 0400 and 0800
- alertness levels consistently peaked between 1400 and 1800

Stress scale

Stress was rated every hour on a 1 (very low stress – I feel very relaxed and calm) to 9 (very high stress – I feel very tense and under high pressure, on the limit to what I can manage).

Chalmers 4-on/8-off

Stress levels remained fairly low under all circumstances.

Chalmers 6-on/6-off

Stress levels remained fairly low under all circumstances.

Effect of the off-watch disturbance

In the 4-on/8-off system, stress levels were higher during the watch following the disturbance (3.7 ± 0.3) than in the control watch (2.8 ± 0.2) in the other half of the week. A similar effect was observed in the 6-on/6-off system, with higher stress levels following the disturbance (4.0 ± 0.5) than in the control watch (2.9 ± 0.2). An interaction with hours in watch was observed in the 6-on/6-off system. Following the off-watch disturbance, stress levels increased during the course of the watch, whereas such a trend was not observed during the control watch.

4-on/8-off versus 6-on/6-off

Stress levels did not differ between the two watch systems, although levels were slightly higher in the 6-on/6-off watch system (3.1 ± 0.2) than in the 4-on/8-off system (2.7 ± 0.2).

Warsash deck

Stress scores were found to be higher during the first watch of the day than in the second (2.8 ± 0.2 versus 2.5 ± 0.2). Stress scores also differed based on the hours in watch, ranging from 2.1 ± 0.2 at the start of the watch to 3.1 ± 0.3 after 5 hours in watch. An interaction between day and watch was observed – indicating that the effect of watch was not identical across the days of the week.

Warsash engineroom

Within subjects, stress scores differed based on the hours in watch, ranging from 3.1 ± 0.3 at the start of the watch to 3.6 ± 0.3 after 2 hours in watch. In addition, an interaction between watch and hours in watch was observed, indicating that the effect of hours in watch was different for the two watches.

Bridge versus engineroom

Stress ratings were higher in the engineroom than on the bridge.



Conclusions

- stress levels were found to vary, but the axis along which it varied differed between the watch systems and between deck and engineroom teams
- overall, stress levels remained fairly low
- the disturbed off-watch period resulted in an immediate increase in stress levels
- stress levels were higher in the engineroom than on the bridge
- stress levels did not differ between the two watch systems

Wake diary

Participants were asked to provide ratings on a scale of 1 (not at all) to 5 (to a great extent) on whether they had experienced any irritability, tensions, worn-out feelings, exhaustion, anxiety, or persistent fatigue, and to rate their health and whether they had got enough rest and recuperation during the last period of wakefulness.

Chalmers 4-on/8-off

No within or between subjects difference was observed in response to questions about feelings of irritability, being worn out, anxious, exhausted, or feeling persistently fatigued. However, more tensions were reported following the second watch of the day and rest and recuperation was reported to be less sufficient during this period.

Chalmers 6-on/6-off

No within or between subjects difference was observed in response to questions about feelings of irritability, being tense, worn out, anxious, exhausted, feeling persistently fatigued, or on ratings of health during the last period of wakefulness. However, a significant difference within subjects was observed in response to the question about gaining enough rest and recuperation during the last period of wakefulness – with rest and recuperation reported to be more sufficient during the time off period following the first watch of the day than the second (2.6 ± 0.2 versus 3.2 ± 0.2).

Effect of the off-watch disturbance

Scores on most wake diary parameters indicated a worse state following the off-watch disturbance. For example, the category 'exhausted' obtained a rating of 2.9 ± 0.3 after the disturbance vs 1.7 ± 0.2 after no disturbance for 6-on/6-off. The corresponding values for 4-on/8-off were 1.8 ± 0.2 vs 1.2 ± 0.1 . Both were highly significant, but those on the 6-on/6-off pattern were more affected – presumably because they lost a six-hour free watch, while those on 4-on/8-off 'only' lost four hours. Similar effects and ratings were seen for the category 'worn out'.

4-on/8-off versus 6-on/6-off

Two wake diary parameters differed significantly between the two watch systems. Worn out feelings were more substantial in the 6-on/6-off system (2.1 ± 0.2) than in the 4-on/8-off system. The sufficiency of rest and recuperation was reported to be higher in the 4-on/8-off system (2.3 ± 0.1) than in the 6-on/6-off system (3.2 ± 0.3).

Warsash deck

Wake diaries showed feelings of irritability, tensions, worn out, anxiety, self-rated health and sufficiency of rest and recuperation increased during the course of the week. Tensions were higher following the second watch when rest and recuperation was stated to be less sufficient compared to the first watch.

Warsash engineroom

No significant differences within or between subjects were observed in responses to questions about irritability, tension, exhaustion, anxiety, or self-ratings of health. But feelings of persistent fatigue and insufficient rest and recuperation increased during the course of the week – being shown to be more abundant during the second watch of the day than the first.

Deck versus engineroom

Wake diary parameters did not differ between the bridge and the engineroom.

Conclusions

- wake diary outcomes indicated better time off following the first watch of the day: rest and recuperation was rated as more efficient and less negative symptoms such as tensions occurred
- outcomes got worse during the course of the week
- the disturbed free watch had adverse effects in both watch systems
- overall, more negative wake diary outcomes were reported in the 6-on/6-off system than in the 4-on/8-off system

- no differences were observed between the bridge and the engineroom

Work diary

Participants were asked whether they had experienced on a scale of 1 (not at all) to 5 (to a great extent): heavy eyelids; 'gravel eyes'; difficulties focussing; irresistible sleepiness; tired eyes; difficulties holding eyes open; impaired performance; effort to stay awake; and to rate difficulty in working; work performance; and workload; and whether they had nodded off during the watch.

Chalmers 4-on/8-off

No within or between subjects differences were observed for the parameters of gravel eyed, difficulties focussing, irresistible sleepiness, impaired performance, effort to stay awake, work performance, and nodding off.

Responses showed that the experience of heavy eyelids differed across the days and between the first and the second watch of the day, while the experience of tired eyes was reported to be higher during the first watch. Within subjects, the experience of having difficulties holding the eyes open was reported as higher during the first watch. Within subjects, self-reported work difficulty and workloads differed across the days.

Overall, the work diary parameters indicated more sleepiness and fatigue during the first watch of the day than in the second.

Chalmers 6-on/6-off

Within subjects, the experience of heavy eyelids, 'gravel eyes', difficulties focussing, irresistible sleepiness, tired eyes, difficulties holding the eyes open, was reported as higher during the first watch than the second. Self-reported nodding off was found to be higher during the first watch.

No within or between subjects difference were observed for the parameters of impaired performance, effort to stay awake, and self-rated work performance.

Within subjects, self-reported work difficulty differed across the days and was reported as being more difficult during the second watch of the day. Within subjects, self-reported workload differed across the days and a three way interaction between day, watch and watch team was observed, indicating that the effect of day was dependent on the watch of the day and that this dependency, in turn, is dependent on the watch team.

Overall, many of the work diary parameters indicated increased levels of sleepiness and fatigue during the first watch of the day compared with the second watch.

Effect of the off-watch disturbance

The effects of the off-watch disturbance compared to the control watch in the other half of the week were evident from a number of ratings. For example, the rating of 'heavy eyelids' was higher during the watch after the disturbed free watch: 2.9 ± 0.2 vs 1.8 ± 0.2 for 4-on/8-off and 3.3 ± 0.3 vs 2.1 ± 0.2 for 6-on/6-off - both highly significant. Similar results were seen for the rating 'impaired performance' (2.2 ± 0.2 vs 1.5 ± 0.1 for 4-on/ 8-off and 2.9 ± 0.2 vs 1.8 ± 0.1 for 6-on/6 off) as well as 'nodding off' (2.1 ± 0.2 vs 1.3 ± 0.1 for 4-on/8-off and 2.7 ± 0.3 vs 1.6 ± 0.1).

Similar variations were seen in the results for a number of other ratings of performance and fatigue. It was evident that using an off-watch



The ship used to provide accommodation for Chalmers participants

period for activity rather than sleep caused major effects on perceived fatigue and performance.

Overall, the work diary parameters indicated increased sleepiness and fatigue following the free watch disturbance in both shift systems and in all watch teams.

4-on/8-off versus 6-on/6-off

Several work diary parameters differed between the two watch systems. Heavy eyelids and gravel eyes were more abundant in the 6-on/6-off system than in the 4-on/8-off system. Participants working in the 6-on/6-off system had more difficulties focussing the eyes and reported a higher incidence of tired eyes. Difficulties holding the eyes open were also more abundant in those working 6-on/6-off and those working this system also reported having to put in more effort to stay awake than those working 4-on/8-off. Subjects in the 6-on/6-off system also nodded off more frequently.

Warsash deck



1 participant in the bridge simulator at Warsash

Both between and within subjects, the experience of heavy eyelids was reported as higher during the first watch.

Between subjects, the watch team working from 00:00 to 06:00 reported more experiences of gravelled eyes than the second

watch team. Difficulties focussing the eyes and experiences of near-irresistible sleepiness, tired eyes, difficulties holding the eyes open, impaired performance, effort to stay awake, self-reported work difficulty differed across the days, and were found to be higher during the first watch. More nodding-off was reported for the first watch than during the second watch.

Overall, most work diary parameters indicated increased levels of sleepiness and fatigue during the first watch of the day than in the second. Some parameters also indicated higher rates of sleepiness and fatigue in the team working the 00:00 to 06:00 system.

Warsash engineeroom

Participants reported a higher rate of experiencing heavy eyelids, gravel eyes, difficulties focussing, irresistible sleepiness, tired eyes, difficulties holding the eyes open, impaired performance, and effort to stay awake during the first watch. Self-reported performance satisfaction levels were higher during the second watch and self-reported workload ratings were higher during the first watch. More nodding-off was reported for the first watch.

The work diary parameters indicated increased levels of sleepiness and fatigue during the first watch of the day as compared with the second. Sleepiness and fatigue symptoms also increased during the course of the week.
Deck versus engineeroom

Sleepiness and fatigue-related parameters of the work diary did not differ between the bridge and the engineroom, although work difficulty and workload was found to be lower in the engineroom than on the bridge.

Overall, more sleepiness and fatigue-related symptoms were recorded during the first watch of the day. Fatigue symptoms were shown to be more abundant in the 6-on/6-off system than the 4-on/8-off system, and participants rated work difficulty and workload levels as higher on the bridge than in the engineroom.

Sleep diary

In the sleep diary, participants wrote down details including if and when they slept and how long it took for them to fall asleep (sleep latency). Questions also addressed the quality of the sleep, with subjects asked to rate their feelings at bedtime and at getting up on a scale of 1 (very alert) to 9 (very sleepy). They were also asked to state the number of cups of coffee consumed, as well as the number of sleeping pills, painkillers or any other medication that was taken. Other questions included:

- number of awakenings from 0 to 6 or more
- was it hard to fall asleep? 5 (not at all) to 1 (very hard)
- did you wake up too early? 5 (no) to 1 (much too early)
- how have you slept? 5 (very well) to 1 (very bad)
- was it easy to get up? 5 (very easy) to 1 (very hard)
- did you have disturbed sleep? 5 (not at all) to 1 (very disturbed)
- did you spent time awake during the period of sleep? 5 (no) to 1 (more than 1 hour)
- how deep was your sleep? 5 (very deep) to 1 (very light)
- did you wake up well rested? 5 (completely) to 1 (not at all)
- did you feel stressed at bedtime? 5 (not at all) to 1 (very)
- have you slept long enough? 5 (definitely enough) to 1 (definitely too little)

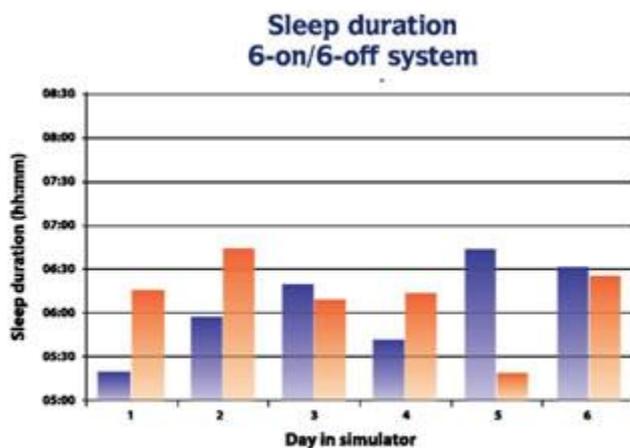


Fig.5 Sleep duration per 24-hour period during the experimental week for Chalmers participants working the 6-on/6-off system bridge simulators. The team working 0000 to 0600 and 1200 to 1800 is indicated in blue, the team working 0600 to 1200 and 1800 to 0000 in orange

Sleep duration Enginerroom

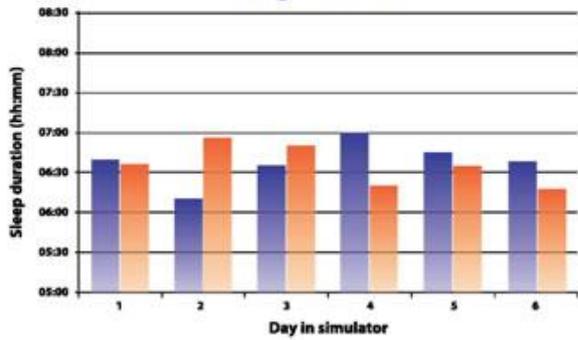


Fig.8 Sleep duration per 24-hour period during the experimental week for Warsash participants working the 6-on/6-off system enginerroom simulators. The team working 0000 to 0600 and 1200 to 1800 is indicated in blue, the team working 0600 to 1200 and 1800 to 0000 in orange

Sleep duration 4-on/8-off system

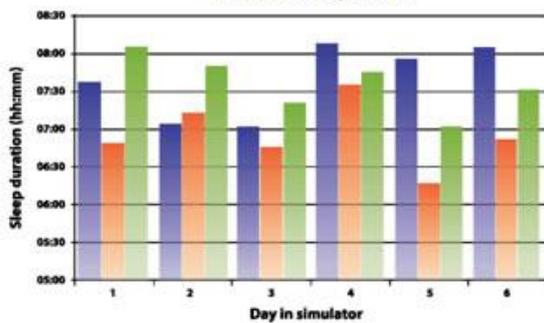


Fig.6 Actigraphy-based sleep duration per 24-hour period during the experimental week for Chalmers participants working the 4-on/8-off system bridge simulators. The team working 0000 to 0400 and 1200 to 1600 watches is indicated in blue; the team working 0400 to 0800 and 1600 to 2000 in orange; and the team working 0800 to 1200 and 2000 to 0000 in green

Sleep duration Bridge

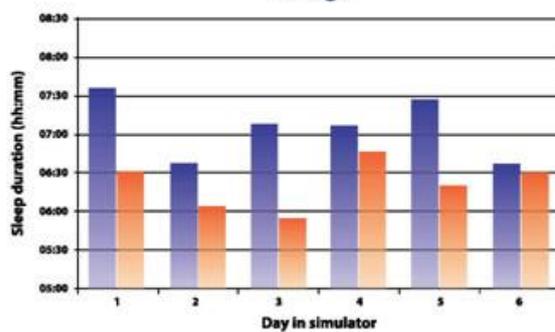


Fig.7 Sleep duration per 24-hour period during the experimental week for Warsash participants working the 6-on/6-off system bridge simulators. The team working 0000 to 0600 and 1200 to 1800 is indicated in blue, the team working 0600 to 1200 and 1800 to 0000 in orange

Total daily sleep duration



The total daily sleep duration for each participant was calculated from the start of the first watch on for every 24-hour period. Variations were found between the two watch systems, with sleep

duration being considerably longer in the 4-on/8-off system (211 ± 8 minutes per free watch) compared with the 6-on/6-off system (162 ± 10 minutes per free watch).

The vast majority of participants were found to split their sleep across the two free watches. In the 6-on/6-off system, sleep duration was longest during the free watches from 0000 to 0600 and from 0600 to 1200. In the 4-on/8-off system, sleep duration was longest during the free watches from 0400 to 1200, from 2000 to 0400 and from 0000 to 0800.

Significant differences were also found in the time taken by participants to get to sleep.

The delay to bedtime differed significantly across watches – for example, on Chalmers 4-on/8-off: after 0000-0400 the delay to bedtime was 42 ± 21 minutes (\pm standard error), after 0400-0800 it was 60 ± 22 minutes, after 0800-1200 it was 225 ± 23 minutes (and few sleeping), after 1200 1600 it was 237 ± 18 minutes, after 1600 2000 it was 169 ± 20 minutes, after 2000 2400 it was 74 ± 23 minutes. Night watches had the least delay to bedtime.

Similarly, at Warsash, a comparison between the bedtimes of deck and engineroom officers on 6-on/6-off (see Figures 9 to 12 on page 20) reveals that after the 0000-0400 watch, the delay to bedtime was generally about 50 minutes, rising to nearer 100 minutes for the late afternoon and evening watches. These results also show that the delay in getting to sleep after the end of the watch was considerably less on the 6-on/6-off regime than for the 4-on/8-off. This relative ease of falling asleep after the end of the watch on 6-on/6-off is explained by the general lack of sleep for those on that more arduous watch.

These results mean that estimates of bed timing need to be adjusted in any estimates of fatigue in models of fatigue regulation.

Sleep on duty

Sleeping on duty poses an immediate and significant threat to safety in any mode of transportation, and shipping is no exception. Through analysis of EEG recordings and visual observation of Project Horizon participants, researchers were able to identify

incidents of sleep – both on the bridge and in the engineroom – as defined by the occurrence of at least one 20 second period of stage 1 sleep whilst on watch.

Chalmers 4-on/8-off

The percentage of participants sleeping by watch is indicated in Figure 9. The highest proportion of watchkeepers falling asleep was observed between 0000 and 0400hrs – 40%, or four participants.

McNemar’s testing did not reveal any statistically significant differences between watches overall, but between night watches and evening watches. The presence of sleep during day watches (between 1200 and 2000) is unusual and normally not seen, but could be a consequence of working night watches, preventing participants from getting their sleep at the proper time – in the hours of darkness.



Fig.9 Percentage of participants sleeping per watch in the Chalmers 4-on/8-off simulations. The team working 0000 to 0400 and 1200 to 1600 watches is indicated in blue; the team working 0400 to 0800 and 1600 to 2000 in orange; and the team working 0800 to 1200 and 2000 to 0000 in green

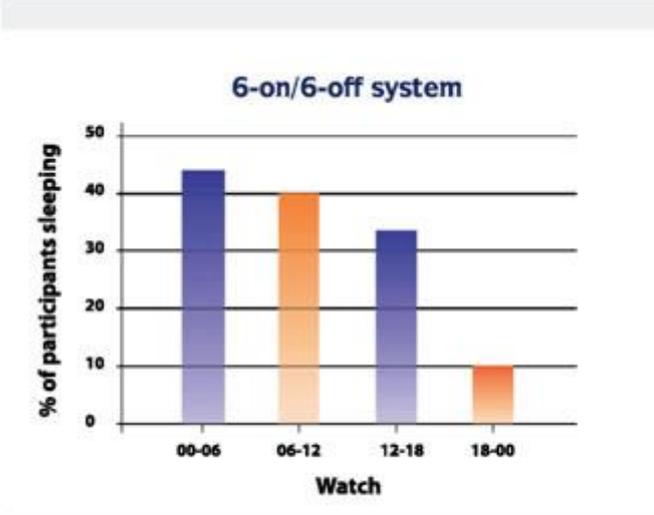


Fig.10 Percentage of participants sleeping per watch in the Warsash 6-on/6-off engineroom simulations

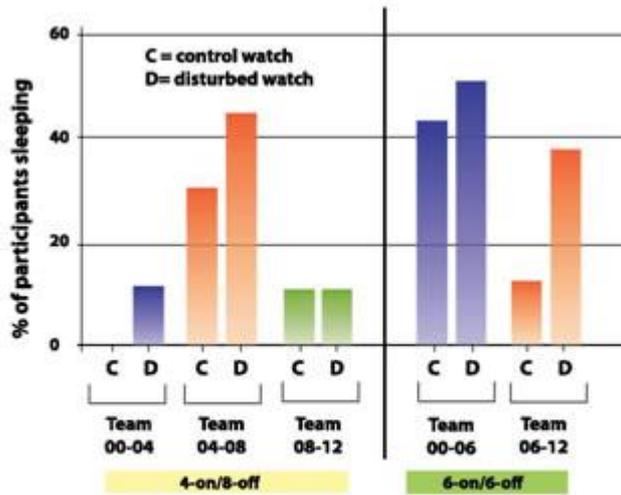


Fig. 11 Percentage of participants sleeping per watch team in the Chalmers simulations after the control watch (C) and following the free watch disturbance (D). The teams working in the 4-on/8-off system are shown at the left, those working in the 6-on/6-off system at the right

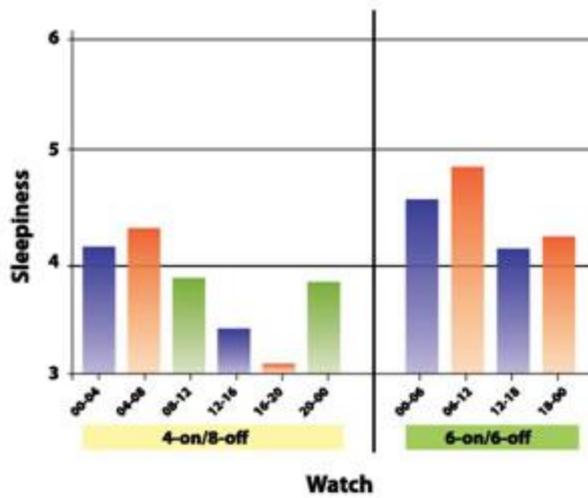


Fig. 12 Percentage of participants sleeping per watch team in the Chalmers simulations. The teams working in the 4-on/8-off system are shown at the left, those working in the 6-on/6-off system at the right

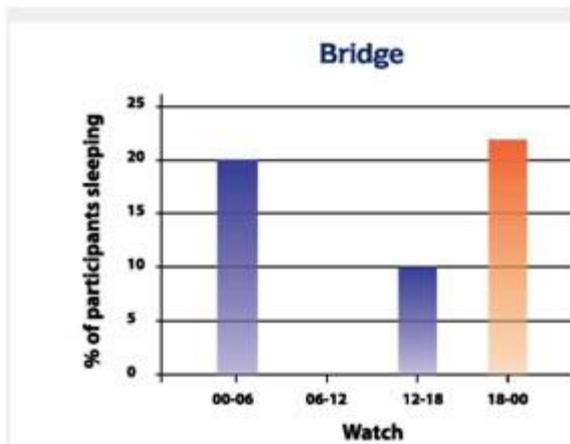


Fig.13 Percentage of participants sleeping per watch in the Warsash 6-on/6-off bridge simulations

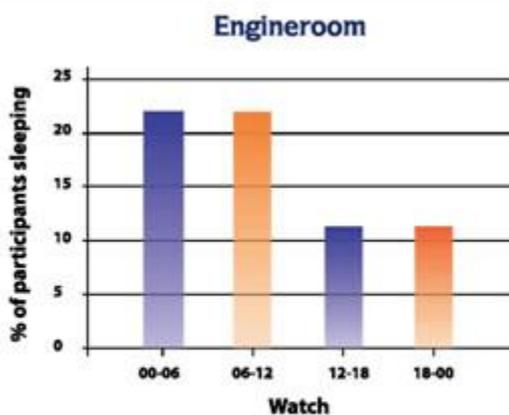


Fig.14 Percentage of participants sleeping per watch in the Warsash 6-on/6-off engineroom simulations

Chalmers 6-on/6-off

The percentage of participants sleeping by watch is indicated in Figure 10. The highest proportion of watchkeepers falling asleep was observed between 0000 and 0400 (more than 40%).

Effect of the off-watch disturbance

Increased rates of participants sleeping were noted in almost all watch teams in both watch systems during the watch following the off-watch disturbance (D) as compared to the control watch in the other half of the week (C) – as indicated in Figure 11.

4-on/8-off versus 6-on/6-off

The results (Figure 12) showed more participants sleeping on watch in the 6-on/6-off system than in the 4-on/ 8-off system, although a level of statistical significance was not reached. At least 50% of participants in both watch teams in the 6-on/6-off system were found to have slept on the bridge, whereas in the 4-on/8-off system such a percentage was only reached by team 1 (working 0000 to 0400 and 1200 to 1600).

Warsash bridge

The percentage of participants sleeping by watch is indicated in Figure 13. The highest proportion of watch keepers falling asleep was observed between 1800 and 0000 (more than 20%, or two participants). McNemar’s

testing did not reveal any statistically significant differences between watches. Researchers suggest that the absence of participants sleeping between 0600 and 1200 may have been the consequence of half of the group participating in cargo-handling simulations (which is rather activating) at that time. Again, sleep during daytime might have been a consequence of the night work involved.

Warsash engineerroom

The percentage of participants sleeping by watch is indicated in Figure 14. The highest proportion of watch keepers falling asleep was observed between 0000 and 0600 and between 0600 and 1200 (more than 20%, or two participants).
Conclusions

- the percentage of participants showing sleep while working on the bridge were unexpectedly high
- more participants fell asleep during the night/morning watches than day-early evening watches
- a disturbed off-watch period was found to result in more sleep during the subsequent watch
- more sleep was found to occur on watch in the 6-on/6-off system than in the 4-on/8-off system
- no significant differences were observed between the bridge and the engineerroom

Bridge versus engineerroom

The percentage of participants sleeping on watch was found to be relatively similar for both watch teams in the bridge and the engineerroom, as shown in Figure 14. No statistically significant differences were observed.

Activity/Electrophysiological measurements

Chalmers 4-on/8-off Reaction time

Within subjects, the mean reaction time differed across the days and between the first and the second watch of the day, being slower during the first watch. Mean reaction times also differed based on time in watch, being slower at the end of the watch than the start.

Lapses

Within subjects, the number of lapses was greater during the first watch of the day than the second and lapses were more abundant at the end of the watch than at the start.

Chalmers 6-on/6-off Reaction time

Within subjects, the mean reaction time was found to be slower at the end of the watch than at the start, and the number of lapses was greater at the end of the watch than at the start.

Effect of the off-watch disturbance

In both watch systems, reaction times were slower following the off-watch disturbance. In the 4-on/8-off system, the mean reaction time was considerably slower following the disturbance ($306 \pm 7\text{ms}$) compared with the control watch ($283 \pm 5\text{ms}$). The number of lapses was also higher following the disturbance (2.3 ± 0.4) compared with (0.9 ± 0.2) in the control watch.

In the 6-on/6-off system, no differences in the rate of lapses were observed between subjects following the free watch disturbance and the control watch. However, the mean reaction time was slower following the disturbance: ($339 \pm 27\text{ms}$) against ($289 \pm 18\text{ms}$) for the control watch.

4-on/8-off versus 6-on/6-off

Reaction times and number of lapses did not differ between the two watch systems.

Warsash deck

Within subjects, no significant main effects were observed for reaction times or the rate of lapses.

Warsash engineroom Reaction time

Within subjects, the mean reaction time was found to be slower during the first watch of the day than the second: (339 ±17ms versus 329 ±17ms).

Lapses

Within subjects, the number of lapses was found to be more abundant during the first watch of the day compared to the second: 6.1 ±1.6 versus 5.2 ±1.4. The number of lapses was also more abundant at the end of the watch than at the start: 6.1 ±1.5 versus 5.2 ±1.5.

Deck versus engineroom

PVT reaction times and number of lapses did not differ between the bridge and the engineroom.

Overall findings:

- worse PVT performance during the first watch of the day
- worse PVT performance at the end of the watch compared with the start
- the off-watch disturbance worsened PVT performance
- PVT performance did not differ between the bridge and the engineroom

Stroop test

Warsash deck

The reaction time on control stimuli did not differ within or between subjects. However, within subjects, the mean reaction time on interference stimuli differed significantly across days with a gradual decline in daily means (1103 ±61ms on day 1 to 982 ±58ms on day 7) which indicated a learning effect over the course of the week.

The number of mistakes on control stimuli did not differ within or between subjects and no mistakes on interference stimuli were observed within subjects. However, the number of mistakes on interference stimuli differed significantly between the two watch teams, with the team working 00:00-06:00 making more mistakes (2.1 ±0.4) than the other team (0.6 ±0.3).

Within subjects, absolute interference (the mean reaction time on interference stimuli minus the mean reaction time on control stimuli) differed significantly across days, with the gradual decline in daily means (from 136 ±18ms on day 1 to 60 ±20ms on day 7) suggesting the presence of a learning effect. Between subjects, no effects were observed.

Within subjects, percentual interference (the relative increase in reaction time on interference stimuli as compared to control stimuli) differed significantly across days and the gradually declining daily means (from 13.8 ±1.7% on day 1 to 6.3 ±2.0% on day 7), were a sign of a learning effect. Between subjects, no effects were observed.

Warsash engineroom

Within subjects, the mean reaction time on control stimuli differed significantly across days and the gradual decline in daily means (909 ±51ms on day 1 to 805 ±37ms on day 7) indicated a learning effect over the course of the week. The mean reaction time was observed to have differed between the first and the second watch of the day, with slower mean reaction times during the first watch (857 ±47ms) than during the second (832 ±41ms). Between subjects, no effects were observed.

Within subjects, the mean reaction time on interference stimuli differed significantly across days, with the gradual decline in daily means (1010 ±69ms on day 1 to 883 ±54ms on day 7) being indicative of a learning effect over the course of the week.

The number of mistakes on control stimuli and interference stimuli did not differ within or between subjects. Within subjects, absolute interference (the mean reaction time on interference stimuli minus the mean reaction time on control stimuli) differed significantly across days and the gradual decline in daily means (from 102 ±24ms on day 1 to 79 ±24ms on day 7) suggested the presence of a learning effect.

Between subjects, no effects were observed. Percentual interference did not differ within or between subjects. Stroop performance was not found to differ depending on the watch.

Conclusion

Deck versus engineroom

None of the Stroop test parameters differed between the bridge and the engineroom. Overall, the tests showed slower reaction times on interference stimuli than on control stimuli. This interference effect declined during the course of the week, probably due to a learning effect.

Outcomes

There can be no doubt that Project Horizon has achieved its principal objective of gaining a deeper and more scientifically rigorous understanding of the way in which sleepiness affects watchkeepers at sea. The results have taken knowledge of the issues to a new level and have demonstrated the multiple and complex effects of some of the most common working patterns for seafarers.

It should be noted, however, that Project Horizon was a simulator-based study that was designed to study some basic aspects of the effects of standard maritime watch schedules on sleepiness and fatigue. Whilst the simulator setting can present a limitation, it does provide better control of the test conditions and offered researchers opportunities for in-depth comparative analysis of participants at different times and on different working patterns in near identical situations. Whilst every effort was made to design realistic simulated working conditions, the practical limitations must be recognised – such as timescales and working environment. There are many other factors that may have an important impact on watchkeepers' sleep and rest – such as bad weather conditions, onboard noise, the effects of long periods at sea, skills and competence of the crew, and varying rules on the use of chairs on the bridge. All these are influences that need to be considered in future studies of fatigue at sea.

Nevertheless, Project Horizon has delivered an unprecedented level of remarkably detailed data that enables the achievement of the core objective of using the findings to assist the development of 'best practice' standards for the shipping industry. The results also provide reliable and validated source material for input into policy discussions at national, regional and international level – with the potential for appropriate bodies to take forward plans for improved regulation of seafarers' working hours, safe manning and fatigue mitigation. Analysis and assessment of this data has enabled researchers to develop a lasting legacy, in the form of a proposed fatigue management toolkit. This package is intended to provide practical guidance for key stakeholders covering:

- the nature of fatigue or sleepiness at sea
- pointers to aid recognition of such conditions
- measures by which mitigation of them might be achieved

- concrete indications how the conditions might be avoided at source and the findings of the project might be applied – in particular to the key stakeholders: seafarers; ship owners/managers; classification societies; policymakers/regulatory authorities; training establishments; equipment providers

Fatigue management toolkit

Sleepiness is an acknowledged risk factor in safety-critical industries and in all modes of transport. It is recognised, however, that shipping differs from some other transport modes, in that the nature of risk exposure and the capacity to act is extremely variable and depends on many factors. The characteristics of working at sea – and especially in the deepsea trades – mean that the coincidence of exposure to risk and absence of capacity to deal with it will be a relatively rare event. It is probable that the level of risk will be much lower than that for road transport, for example, and most likely to be more similar to that in aviation.

In fact, the data from Project Horizon indicates that the probability of danger at sea will be highest when night watches are combined with prior reduction of sleep opportunities, and exacerbated by passages through narrow or very densely travelled waters, or during reduced visibility.

The Project Horizon findings suggest that owners, regulators, seafarers and others should pay special attention to the potential risks in difficult waters in combination with the 6-on/6-off watch system (because of sleep loss), night watches, the last portion of most watches (especially night watches), and watches after reduced sleep opportunity. There is also some evidence from the research to suggest that individual susceptibility to fatigue probably also needs to be considered.

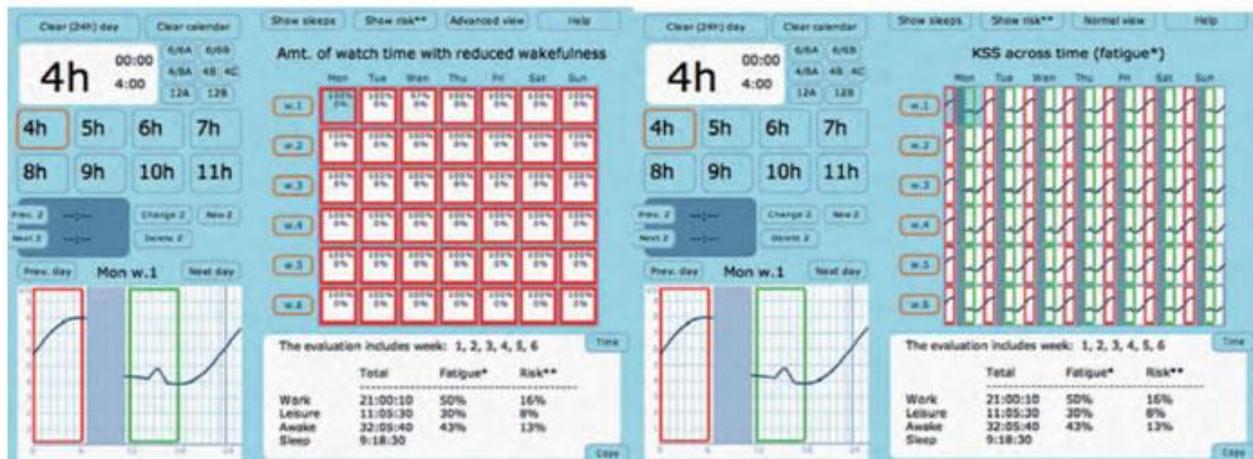
A variety of methods (some of which are already commonly deployed) may be used to address this potential risk, including alarm systems to alert crew before important waypoints, encouragement not to use chairs on the bridge during night watches, additional crew, training crew to recognise symptoms of fatigue, and special protection of sleep periods for watchkeepers.

Another way of reducing fatigue-related risk is to train seafarers in understanding the causes and consequences of fatigue, how to detect it, how to prevent it and how to report it. The latter requires a level of acceptance of fatigue reporting without reprisals from those in authority. Personal fatigue countermeasures include caffeine, strategic napping and physical or mental activity. Judicial use of countermeasures against fatigue should be part of the job description for all personnel on watch duty.

The toolkit takes these precautions a step further, by using scientifically verified data to build mathematical models which can be used to predict which portions of a particular voyage may be critical from a fatigue point of view – allowing mitigating action to be planned ahead of time.

It is well known that working hours which deviate from conventional patterns (shift work, roster work, and irregular watch schedules) always entail a high probability of reduced sleep and of increased fatigue, with an ensuing accident risk. In recent years, scientists have developed mathematical models for alertness or performance prediction – and these have most notably been applied in the aviation industry. An example of the recognition of the value of such systems can be seen from the US National Transportation Safety Board's 'Most Wanted List' and the associated 2011 recommendation stating: 'The Safety Board continues to call for the development of fatigue management systems, which take a comprehensive approach to reducing fatigue-related risk. These systems should be based on empirical and scientific evidence and should include a methodology to continually assess their effectiveness.'

It is against this background that the Project Horizon researchers have been able to use the robustness of the results of their work to develop a maritime alertness regulation version of these models – 'MARTHA': an acronym derived from 'a maritime alertness' regulation tool based on hours of work.



How MARTHA could predict sleepiness on a 6-on/6-off schedule for team A (0-6 +12-18). 16% of the time on watch sleepiness is at dangerous levels. The second image includes the miniatures of the continuous curve and the predicted sleep periods

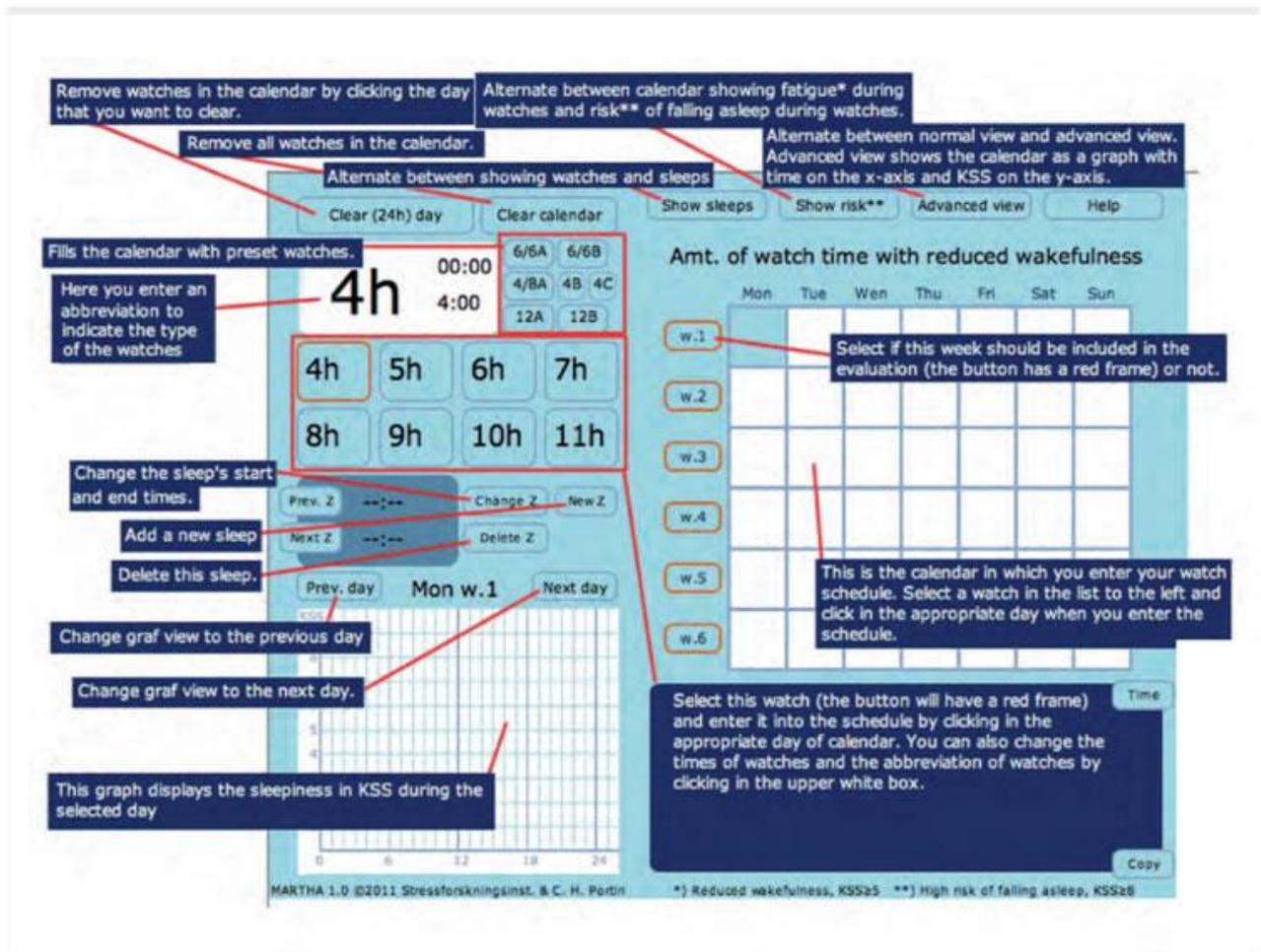
Mathematical models for alertness or performance prediction have been developed mainly as tools for evaluating the effects on sleepiness or fatigue of work schedules or sleep/wake patterns that deviate from the

pattern of daytime activity and night time sleep. Early models were based on the effects of time awake and amount of prior sleep as well as a circadian component representing the effect of the biological clock. As scientific understanding has increased, models have become more sophisticated, incorporating a wider range of factors that influence sleepiness and alertness and expanding to include predictions of sleep latency and sleep duration.

The detailed information obtained in Project Horizon has enabled the model to be validated against the empirical sleepiness data. Apparently, there has been no prior knowledge of the way in which sleep is distributed across sleep opportunities on sea schedules. An important new development from Project Horizon has been the use of the empirical sleep data (bedtimes and rise times) obtained from the research to create a new function of the model to predict sleep on sea watches. The model also incorporates a third process reflecting the effects of time on-watch.

These functions were combined and, using a computer-based system, will provide a maritime interface with selectable watch schedules and a 'do-it-yourself' watch system facility. Users will be able to enter their working schedules over a six-week time window and receive predicted estimates of the most risky times and the times of highest potential sleepiness for each watch and for the whole watch schedule, as well as for time outside watch duty.

The major display contains estimates for each 24-hour period, with a second display to describe each 24-hour period with sleep periods and a continuous estimate of sleepiness. This information may also be displayed as miniatures in the main display.



The MARTHA interface

MARTHA could be used onboard during voyage planning to develop watch systems that are efficient and that minimise risk. Shipping companies can use the system when planning the size and competence of the crew. The tool could also yield important International Safety Management Code benefits, and might be used for insurance and classification purposes.

MARTHA could also assist flag states and port state control authorities, enabling solid documentation if, for example, a ship is to be detained in order to let the crew rest before the voyage is resumed. It could also be used for the prevention and investigation of accidents. The Horizon consortium recognises that Project Horizon is a project that will be more for public benefit than having commercially exploitable outputs. It fulfils a need that could not economically be sustained by any individual, or even a group of, actors, without the essential ingredient of public funding, by courtesy of the EU. It will achieve its success through exploitation, in a variety of ways: widely and generally on the world stage of maritime safety; as well as individually through the benefits attained and appreciated by the project partners themselves.

The overall results from Project Horizon may be transferred into different types of recommendations. However, these need to acknowledge the total risk situation – the convergence of risk exposure and capacity to act. In road transport the risk exposure is present 100% of the time. In seafaring risk exposure may mainly occur in manoeuvring in narrow or otherwise difficult waters or with poor visibility. The incidence of such exposure will vary greatly depending on many factors, but must be very much lower than that for road transport – probably more similar to that in aviation.

One of the strongest factors influencing the capacity to act is sleep, when performance is absent. However, such states during work are relatively sparse and sporadic – even during night work – but they occur for most operators on each difficult watch or shift. The coincidence of exposure to risk and absence of capacity to deal with it will be a relatively rare event. The probability of danger will be highest when night watches are combined with prior reduction of sleep opportunities, together with passages through narrow or very densely travelled waters, or during reduced visibility.

Considering the results of the present study, special attention needs to be paid to:

- the risks in passages through difficult waters in combination with the 6-on/6-off watch system (because of sleep loss)
- night watches
- the last portion of most watches (especially night watches)
- watches after reduced sleep opportunity
- individual susceptibility to fatigue also needs to be considered

The suggested 'special attention' may involve alarm systems to alert crew before important changes of course, alerting devices, encouragement not to use chairs on the bridge during night watches, additional crew, special protection of sleep periods for watchkeepers, or no work apart from watchkeeping.

In addition, mathematical models (MARTHA) can be used to predict which portions of a particular voyage may be critical from a fatigue point of view and thereby mitigating action can be planned ahead of time.

One way of reducing risks related to fatigue may also be to train the crew in the causes and prediction of fatigue, its risks, how to detect it, how to prevent it and how to report it. The latter requires a level of acceptance of fatigue report without reprisals for those in authority. Personal fatigue countermeasures include caffeine, strategic napping and physical or mental activity. Judicial use of countermeasures against fatigue should be part of the job description for all personnel on watch duty.

Most of the general points discussed above are part of what is called 'Fatigue Risk Management', and which is presently being implemented in aviation worldwide. A similar development seems called for in marine operations.

A final recommendation concerns future research. Project Horizon is the first detailed and experimental study of fatigue at sea. As discussed previously, it has limitations, one of which is that the data has been obtained in a simulator. This makes good experimental control possible, but also detracts from the possibility to generalise. There is a clear need for replicating the present study at sea and to carry out studies of long periods at sea to identify fatigue causes that may derive from boredom, isolation and similar factors.

Inséré le 23/09/14 NIEUWS NOUVELLES Enlevé le 23/10/14

Inséré le 23/09/14 NIEUWS NOUVELLES Enlevé le 23/10/14