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Stability calculations-paper or PC?

When verifying stability compliance, which is best for your ship - paper or PC?*

Mariners are well aware that stability is a critical aspect of ship safety, and traditionally a stability book has been provided on board under Loadline Regulations[1] to give the Master information on how to load his ship safely.

In recent years these documents have been supplemented with computer-based versions, typically termed loading instruments or (strength and) stability loading calculation software (LCS).

In our modern day lives we cannot get away from computers – whether it's accessing bank accounts, booking holidays, or checking out the half-time football score – and it makes good sense to use these tools where commercially of benefit.

But is a computerised approach always compatible with the way seafarers have carried out some of these tasks in the past – especially those which are safety critical? Are the associated limitations clearly understood? And what impact may imminent legislation have – particularly when it comes to verifying compliance with complex stability requirements?

Significant financial commitment from owners and operators on such tools is likely over the next couple of years and so ensuring the right approach is taken in good time may be critical both for ongoing operations and effective investment of time and finances.

A ship's stability book is required to include the basic information needed by the Master to check stability compliance, following guidance from the IMO. In many cases, the information is simplified for ease of use and the contents are therefore conservative. Modern computerised LCS systems are, on the other hand, sophisticated tools and are able to assess pretty much any loading scenario and in much greater rigor than using the stability book for hand calculations.

As a result, a properly set up LCS can maximise the operability of a vessel, but it must be thoroughly verified to ensure that its methodology and functionality would never compromise the safety of the ship.

This is especially relevant to tankers, where the distribution of cargo has a significant influence on both intact and damage stability compliance. In October/November 2011 port state inspections under the Paris Memorandum of Understanding were undertaken on a variety of tankers in a concentrated inspection campaign (CIC).

The inspections found that a number of tankers were sailing without following the stability book – in other words without any formal verification of damage stability compliance - and a proportion were in fact planning to sail in a non-compliant load condition. Pat Dolby, co-ordinator of the CIC, commented that "The most significant finding from the campaign was that 16.2% of tankers that were inspected the Master could not demonstrate that the ship was normally loaded in accordance the SIB. This is a significant number of tankers that, during a 'spot check', could not show compliance with stability requirements and thus may pose a risk to the environment" [2].

The view that tankers are inherently safe with regard to stability is not correct. It is well understood that there can be multiple free surfaces present and this is accounted for thoroughly in the design approval process. But the content and scope of approval of stability documentation can vary greatly. For example, typically the damage stability approval might only cover the specific load conditions contained within the stability book and there is no guarantee that a new (or even very similar) load condition will also comply

with the regulations (approval certification often includes a clause such as 'proposed new cargo load conditions should be submitted to the administration for approval').

The form and content of the stability book is often driven by the newbuild contract and understandably, to minimise cost these documents tend to contain the minimum information necessary to meet statutory requirements and practical for use on board. It could be assumed that an LCS is usually installed under class society strength requirements anyway, and so the Master could then examine and verify compliance for any intended loading condition.

But LCS performing strength calculations may not have been necessary and even if on board it may not have needed approval - or to cover relevant stability functions.

It is also worth noting that the fundamental requirement of an LCS approval under the 2008 Intact Stability Code [3] and IACS UR L5[4] (for class approval) is that it is to be based upon the stability book.

If the approved stability documentation is very limited in scope and content, then the LCS will also be limited in its use. In fact for older vessels, it may be almost impossible to develop a useful LCS using the approved information to hand and significant additional work may be needed to avoid producing a tool, which would actually make operability even more restricted.

Approval of stability documentation also tends to be approached from the perspective of safety rather than precision. Independent checks are often carried out, rather than a time consuming and costly line by line review of every last number.

Consequently, where there are conservatisms built into the stability documentation, or results which are not explicitly as expected but are 'on the safe side'– these are generally accepted without amendment if the included load conditions comply, the safety of the ship is not compromised and sufficient data is provided for checking other conditions safely.

If we then consider that the formal approach to approving an LCS for a specific ship is that derived results should match the stability book values within some small prescribed margins [3][4], it is clear that problems could arise in the approval process.

In fact, a high quality LCS, using data and/or methods, which are more thorough than that used in the stability book, could be regarded as non-compliant if the numerical checks are outside the tolerances. Approval can then become unnecessarily complicated and delayed.

A modern LCS tool may often not include some conservatism necessary in stability books and therefore trying to force an LCS to match a simplified stability book can be a backward step now that tools are available, which can do a better job – if properly set up.

Experience while working for a major UK-based classification society for the past 15 years has highlighted that much effort is often expended when approving modern LCS systems, as little if any groundwork is done to identify the most effective solution for each ship.

Where LCS systems cover damage stability aspects in particular, significant extra work is often necessary, as the approved paper documentation can never include everything, due to the sheer volume of data and calculations involved. Rarely does sufficient forethought go in to the process to properly specify the right, comprehensive tool that will both fit the regulatory bill and maximise operability and so profitability. For tankers this is commonly an issue.

A typical example is for compliance with MARPOL Regulation 28 deterministic damage, where regulations require both 'full extent' and 'lesser combinations' of damage to be examined. Often the approved stability documentation only shows the full extent damages (which might number 20, or less) because these may be the most critical damage cases for the handful of standard loading conditions included in the stability book.

However, this may not be the case for other loading patterns and so to provide a valid confirmation of compliance for any load condition, the LCS would need to include and assess all the required damage combinations – which could number 300 or more cases. It is understandable why these would not be stated in the original approved stability documentation if they were not critical, but clearly additional work may be required to define the 'missing' cases for inclusion in the LCS.

Similar problems arise in defining all openings to be used in such calculations, as often only the worst are reported. Saying this, in cases where this information can be compiled, the resulting LCS provides a tool, which would ensure compliance along with much wider flexibility in vessel loading than the stability book had offered. However, it might only be worth the investment if the added flexibility can be exploited. As you can see, the best solution may not be immediately clear.

As a tanker owner, or operator, you may well be wondering what is the immediate relevance to ongoing operation of your vessels?

First, from a risk management perspective, awareness of the limitations and scope of the existing tools such as stability booklets and LCS systems is essential - approvals are rarely carte blanche. In conjunction with this, it should also be acknowledged that a conservative approach is likely to have been taken in some respects for those tools and may well be limiting operability of your ship. Review of existing documentation and possibly provision of an approved LCS system, may well provide the opportunity to mitigate this and ultimately increase revenue.

Second and the more pressing issue, is the relevance of imminent statutory legislation. In February, 2013 the IMO MSC sub-committee on stability, loadlines and fishing vessels agreed proposed amendments to MARPOL, IBC and IGC Conventions/Codes [5,6] at its 55th session which were summarised as follows : 'The sub-committee agreed mandatory carriage requirements for stability instruments on board tankers. The draft amendments to MARPOL Annex 1, regulation 28 (subdivision and damage stability) add a new paragraph to require oil tankers to be fitted with a stability instrument, capable of verifying compliance with intact and damage stability requirements.' Consequently, all tankers, irrespective of age, will be required to have their stability verification process reviewed at the very least and in most cases this is likely to require updates to existing documentation and/or provision, or update of an on board LCS system.

For each ship, the cost-effective solution will be based upon the operational profile of the vessel and the current scope of approved documentation and any existing LCS. There is the risk that hasty provision of a means to comply with the requirements might in fact have a negative impact and impose significant and unnecessary operational restrictions on the ship.

But procurement of a brand new, fully specified and approved LCS may not be the only solution. Options, such as approval of additional loading conditions, enhanced basic ship data and/or limit curves in the stability book, or update of an existing approved LCS with the necessary functionality, may suffice.

The cost for each option must be weighed against the potential operational benefits. More modern vessels may already have a stability LCS on board – possibly even an approved system – but it may be the case that the functionality, or approved scope, does not cover all the required stability aspects.

Most older vessels may have no stability LCS on board and given the limited information often contained within older stability books, there may be significant effort needed to develop such a tool.

It is also worth noting that where a vessel has been assigned a new role, any previous loading provisions in the stability book, or LCS, may now be irrelevant, or at least need to be supplemented.

It would therefore be advisable for owners and operators to undertake a prompt and thorough technical review of the operational profiles of their ships, the available approved information and systems and the resulting options for compliance with the amendments.

There are a limited number of providers of suitable LCS systems – particularly those with the full 'Type 3' direct damage capability (which will often be the best option for a tanker) – and the number of vessels to which these requirements will apply is significant.

While implementation dates have yet to be set, even if a generous two to three year time scale is agreed, it will be challenging for all ships to be appropriately equipped in good time.

Owners and operators should address this as a priority issue - but with due consideration that the right solution may not be the most obvious and with appropriate forethought it is likely that operational gains may be possible at the same time as just 'meeting the new requirements'.

References:

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3. International Code on Intact Stability, 2008 Resolution MSC.267(85) Resolution MSC.319(89) - Part B – Recommendation for Certain Types of Ships and Additional Guidelines - Chapter 4 – Stability calculations performed by stability instruments - 4.1 Stability instruments.
4. International Association of Classification Societies, Unified Requirement L5 'Onboard Computers for Stability Calculations' Corr 1. Nov 2006.
5. International Maritime Organisation SLF 55/6/1 Development of Mandatory Carriage Requirements for Stability Instruments Onboard Tankers.
6. http://www.imo.org/MediaCentre/ MeetingSummaries/SLF/Pages/SLF55th-session.aspx

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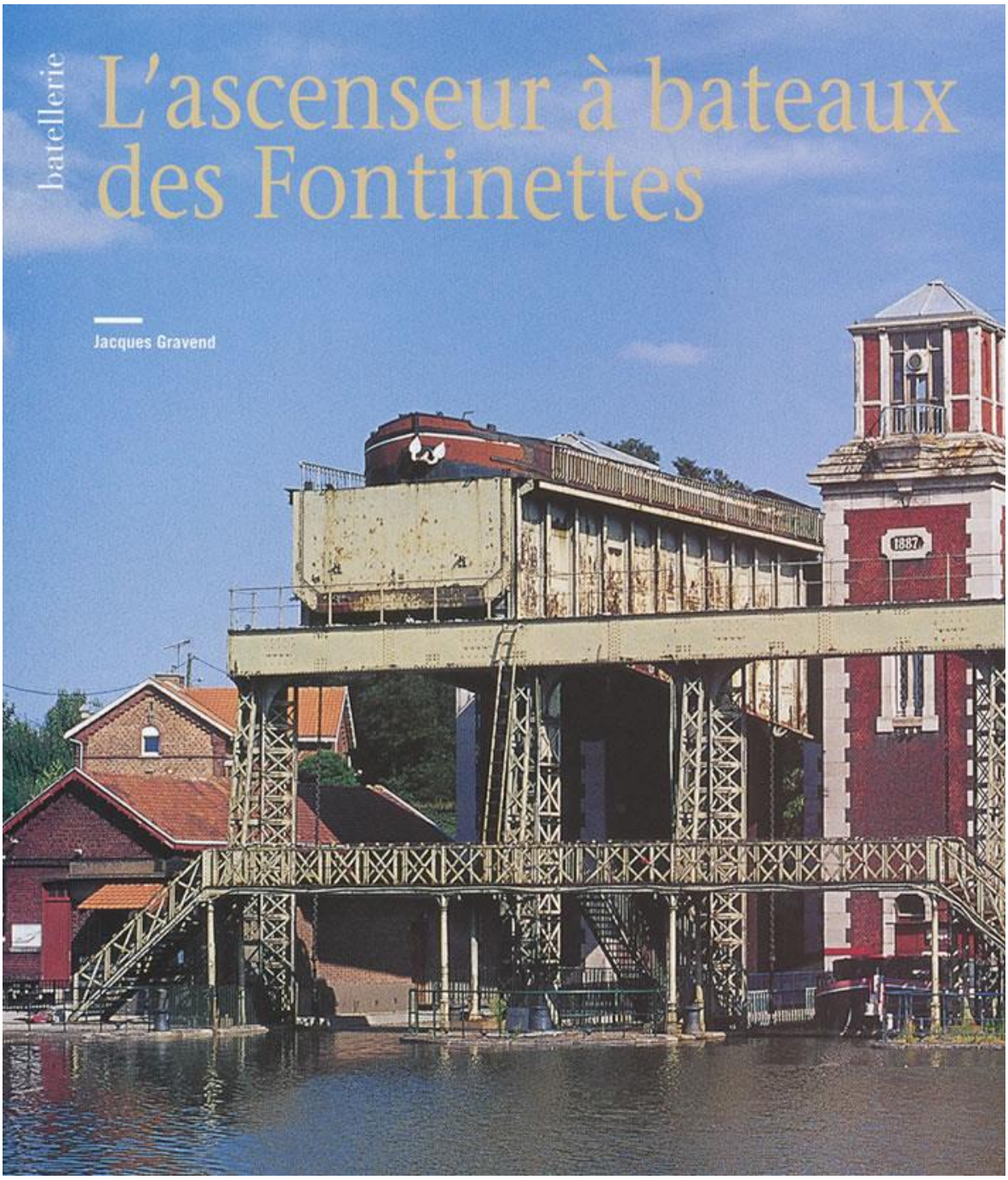


Mis en service en 1888 près de Saint-Omer,sur un canal entre l'Aa et la Lys, l'ascenseurhydraulique des Fontinettes a permis aux bateaux de franchir plus de 13 mètres de seuil pendant quatre-vingts ans. Il reposait sur deux principes physiques simples et sur le génie technologique du XIX siècle industriel.

Archimède et Roberval au secours de la batellerie française par l'intermédiaire d'un ingénieur britannique, ainsi peut-on résumer la genèse de l'ascenseur hydraulique à bateaux des Fontinettes, à Arques (Pas-de-Calais). Cent vingt ans après, la machine est désaffectée mais la simplicité de son principe lui confère encore une étonnante originalité. Pour preuve, 2002 aura vu la mise en service d'un autre ascenseur, d'une tout autre dimension, mais en Belgique.

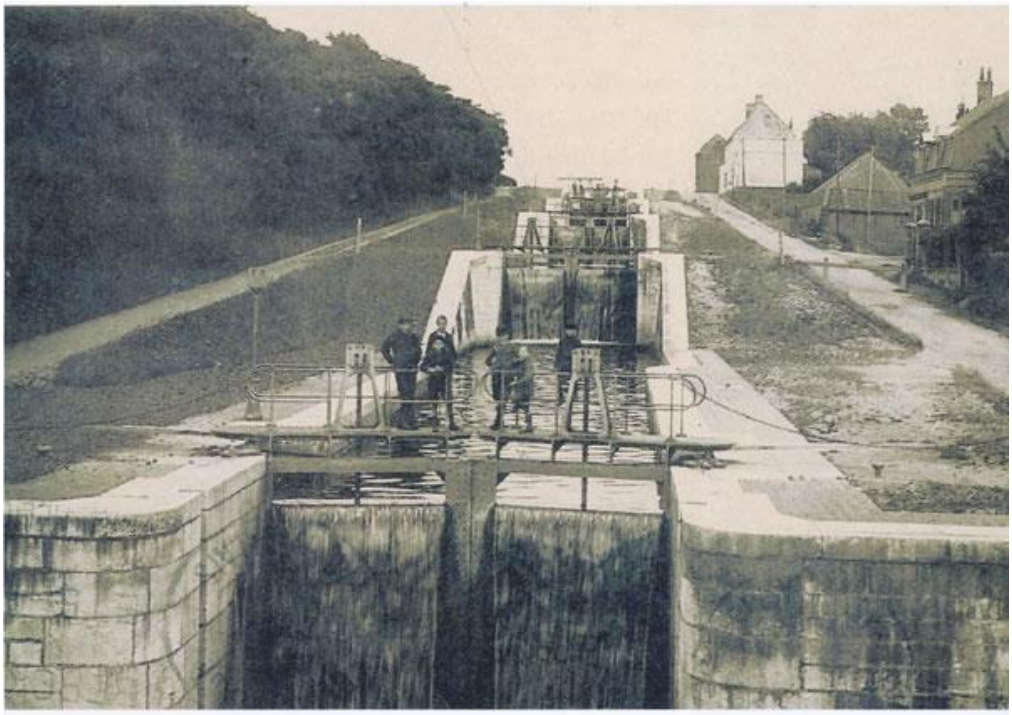
Pour comprendre l'utilité de l'ascenseur des Fontinettes, un petit retour en arrière est nécessaire. Par le traité de Nimègue, en 1678, Louis XIV a rattaché Saint-Omer et une partie de la Flandre à la France. Il lui importe dès lors que les grandes villes de l'intérieur, dont Lille et Paris, disposent d'un débouché sur la mer, en particulier par les ports de Dunkerque, Gravelines et Calais, à des fins de commerce. Le percement du canal de Neuf-fossé, qui sera achevé en 1754, est décidé; il joindra, d'une part, le canal de l'Air à l'Aa, d'autre part, la Lys. Ce canal empruntera l'ancien "fossé" creusé en 1050 comme limite de ses Etats par Baudouin V, comte de Flandre. Mais à 4 kilomètres au Sud-Est de Saint-Omer, au lieu-dit les Fontinettes, se trouve une surélévation de 13,13 mètres. Compte tenu des connaissances de l'époque, une échelle de cinq écluses successives est construite, qui permet de racheter cette dénivellation. Pendant plus de cent ans, cet équipement satisfera à la navigation.

Avec l'industrialisation du XIXe siècle, le trafic fluvial s'amplifie, notamment pour le transport du charbon des bassins houillers du Nord et du Pas-de-Calais. En 1889, ce trafic atteint 800000 tonnes, soit treize mille bateaux. L'écluse des Fontinettes est engorgée. Des bateliers attendent jusqu'à cinq à six jours avant de pouvoir sasser. Seuls les petits commerçants d'Arques y trouvent leur compte, grâce à cette clientèle captive de mariniers. Ils le rappelleront d'ailleurs quand l'ascenseur aura supprimé l'embouteillage.

Dans les années 1870 on envisage deux solutions pour résoudre le problème des Fontinettes: doubler l'échelle d'écluses, ou rectifier le canal et construire des écluses isolées. Car, par sa conception même, l'ouvrage des Fontinettes constitue un frein à la navigation. Ses sas sont, en effet, superposés, ou accolés. La manoeuvre d'éclusage n'autorise donc la présence simultanée de bateaux que dans des sas alternés, soit les sas 1, 3 et 5, soit les sas 2 et 4. Cela induit des temps de sassage extrêmement longs: une heure 35 pour monter, et une heure 10 pour avaler, dans le meilleur des cas. De surcroît, les sas sont si exigus (30,80 mètres de long pour le plus petit) qu'ils ne peuvent accueillir qu'un seul bateau à la fois et que les croisements y sont impossibles. C'est pourquoi l'Administration s'est résolue à alterner chaque jour le sens des sassages: on monte les lundis, mercredis, vendredis et dimanches; on avale les autres jours. Cette disposition permet le passage de trente-sept bateaux par jour, sachant que l'échelle d'écluses fonctionne vingt-quatre heures sur vingt-quatre, sauf en période de gel et de chômage.

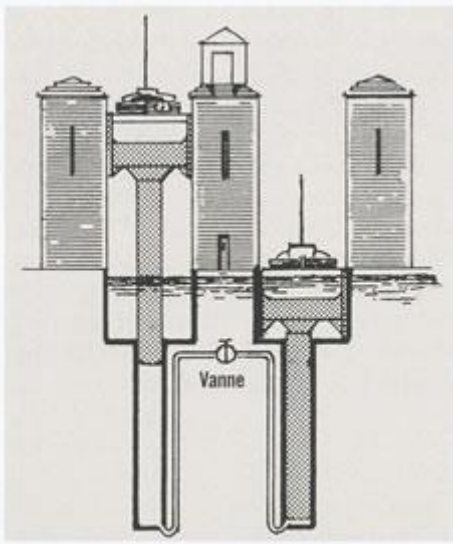
Une échelle de cinq écluses condamnée par le gabarit Freycinet

Les études concernant le doublement des sas ou la rectification du canal n'ont pas encore abouti quand, le 20 juillet 1877, un arrêté ministériel vient tout jeter à bas. Signé du ministre des Travaux publics — et futur président du Conseil —, le baron de Freycinet, il porte à 38,50 mètres la longueur des bateaux, et donc la longueur utile intérieure des écluses. Ce standard mènera à la diffusion en grand nombre des péniches dites "Freycinet", longues de 38,50 mètres, larges de 5 mètres et calant 1,80 mètre. Pour les Fontinettes, tout est à reprendre.



Avant la construction de l'ascenseur, une échelle de cinq écluses permettait de franchir le dénivelé des Fontinettes... à condition d'être patient.

L'attention de l'administration des Ponts et Chaussées est alors attirée par les avantages de l'ascenseur hydraulique d'Anderton, sur le canal de Trent et Mersey, près de Manchester, en Grande-Bretagne. Conçu par l'ingénieur Edwin Clark, cet ouvragé construit deux ans plus tôt permet d'élever des bateaux de 80 à 100 tonnes sur une déclivité de 15,35 mètres. Une mission est diligentée sur place. Dirigée par l'ingénieur en chef Bertin, alors directeur des Ponts et Chaussées du Nord, elle comprend notamment les ingénieurs ordinaires de Mas et Vétillard. Le rapport de l'ingénieur Bertin, remis le 31 décembre 1880, emportera la décision en faveur de l'ascenseur hydraulique de Clark. Les ingénieurs français semblent avoir été particulièrement séduits parla simplicité du dispositif, même s'il s'agit à présent de porter des bateaux de 300 tonnes, et non plus de 100 tonnes.

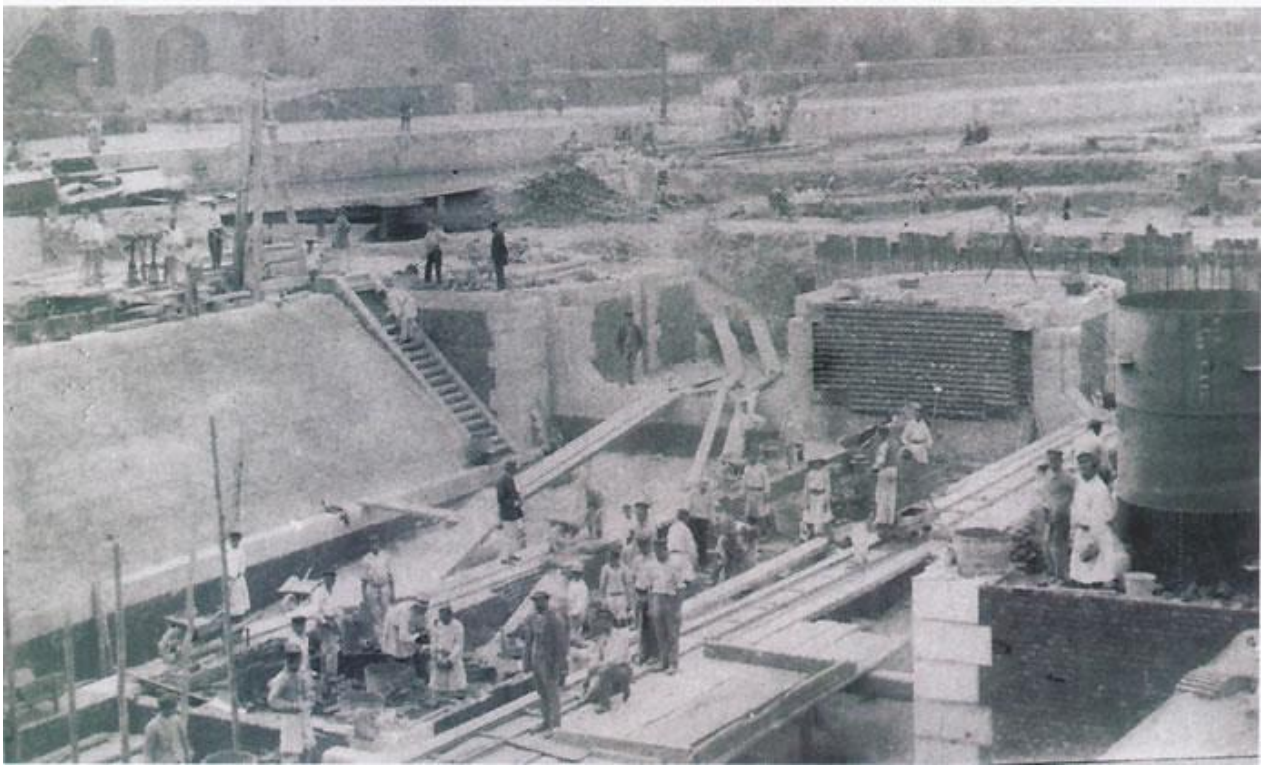


Principe de fonctionnement de l'ascenseur à bateaux hydraulique des Fontinettes.

Pour son ascenseur, Clark a emprunté à la fois à Archimède et à Roberval. Le physicien et mathématicien grec (287-212 av. J.-C.), également premier hydraulicien de l'Histoire, a énoncé le principe suivant: "Un vase contenant de l'eau maintenue à un niveau constant, conserve un poids également constant, quel que soit le poids d'un corps qu'on y ajoute, pourvu que ce corps flotte". Quant au physicien français Gilles Personier de Roberval (1602-1675), il a mis au point la célèbre balance à deux plateaux qui porte son nom. L'ascenseur de Clark repose donc sur le double principe suivant: deux sas — les vases d'Archimède — avec une hauteur d'eau constante, montés sur deux presses hydrauliques en communication — les plateaux et le fléau de la balance de Roberval. A hauteur d'eau égale, les deux sas s'équilibrent; avec une surcharge d'eau, donc de poids, l'un des sas fait monter l'autre.

Les événements vont ensuite s'enchaîner rapidement. Le 26 avril 1881, quatre mois après la remise du rapport, la décision ministérielle de construire l'ascenseur semble prise.

L'ingénieur Clark est sollicité, ainsi que la société Call, pour la construction des parties mécaniques. Le temps d'achever et de confirmer les études, et les travaux débutent en 1883.



L'implantation de l'ascenseur est fixée à proximité de l'échelle d'écluse, au Sud de celle-ci. L'ouvrage sera érigé au niveau du bief inférieur, contre la voie de chemin de fer qui relie Les parties métalliques consistent en deux sas, dont chacun est porté par sa propre presse hydraulique, un choix technologique mûrement réfléchi par Edwin Clark (lire encadré page 35). Chaque sas est un bac d'une longueur totale de 40,35 mètres (longueur utile intérieure de 39,84 mètres), d'une hauteur de 5,50 mètres au milieu, et de 3,50 mètres aux extrémités. Sa largeur intérieure est de 6 mètres, "pour laisser un écoulement d'eau convenable lorsqu'on rentre un bateau large de 5 mètres". Le sas est constitué de deux

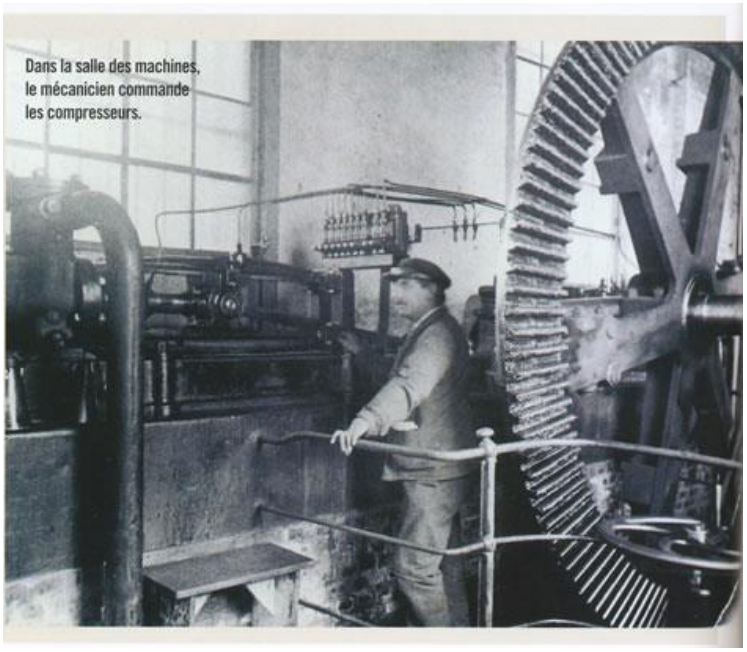
poutres principales reliées par des entretoises hautes de 0,50 mètre et espacées de 1,53 mètre. La partie centrale du sas repose sur un sommier entretoisé par des croix de Saint-André. Ce sommier forme un carré de 3,30 mètres de côté sur lequel sera fixée la tête du piston. Le sas est bordé en tôles d'aller de 8 millimètres d'épaisseur. Sa rigidité est telle qu'il faudrait "appliquer un poids de 100 tonnes à [son] extrémité pour détacher la liaison piston-sas". Chaque sas est muni à ses extrémités d'une porte à rabattement.

Le montage des deux plateaux de cette énorme balance est des plus judicieux. On commence par construire les sas sur des échafaudages en bois à 7 mètres au-dessus du radier des cales sèches. Un dégagement est ménagé au droit des têtes de puits. Les sas une fois construits servent ensuite à supporter les treuils qui vont permettre d'amener les pièces des presses hydrauliques. D'abord, les anneaux des cylindres. Une fois ceux-ci en place, leur étanchéité est assurée par la pose d'une chemise en cuivre de 3 millimètres d'épaisseur d'un seul tenant, martelée sur place. La conduite de communication entre les deux cylindres est alors installée. Il s'agit d'un tuyau en acier de 25 centimètres de diamètre intérieur, sortant du bas d'un cylindre, remontant dans le puits jusqu'à la hauteur de la salle des machines, et rejoignant le bas de l'autre cylindre. C'est le fléau de la balance de Roberval. Dans sa partie haute, la conduite est interrompue par la vanne de communication, et connectée aux tubulures des deux distributeurs.

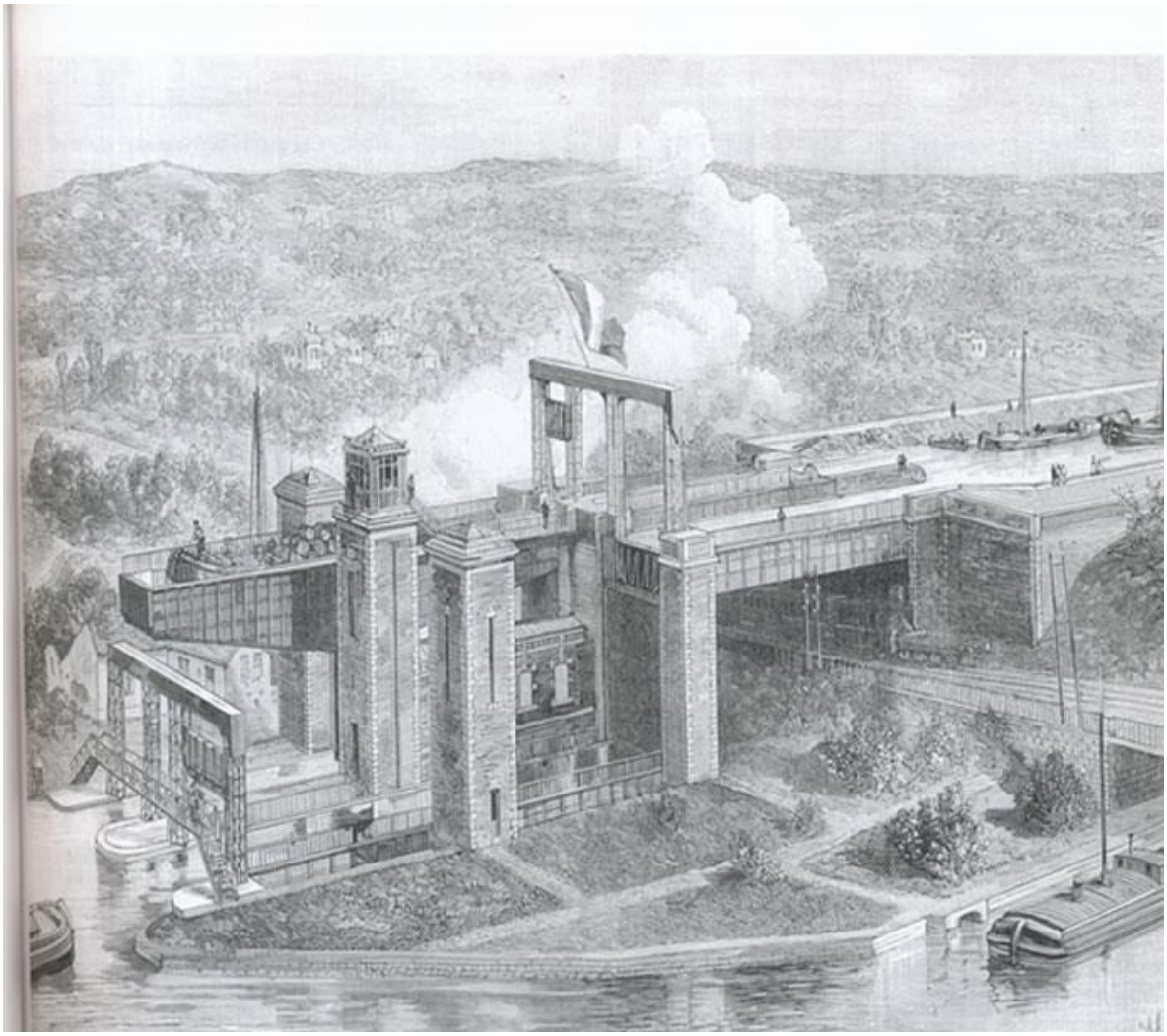
Pour installer les pistons, les cylindres sont noyés à la pompe à bras

A ce stade, les cylindres sont noyés à la pompe à bras (une quarantaine de mètres cubes d'eau) pour en vérifier l'étanchéité. L'installation des pistons des presses, à l'aide de treuils suspendus aux sas, peut alors commencer. Chaque piston mesure 17,80 mètres de long, 2 mètres de diamètre extérieur et 6 centimètres d'épaisseur. II est composé de sept tronçons, le tronçon inférieur, formant une calotte hémisphérique, et le tronçon supérieur étant légèrement renflé vers l'extérieur pour interdire l'accès de l'eau sous pression. Des brides intérieures permettent de fixer les tronçons entre eux à l'aide de boulons de 5 centimètres de diamètre. Ces dimensions impressionnantes sont justifiées par le fait que la plus grande rigidité du piston est requise, car celui-ci doit supporter une charge de près de 800 tonnes, soit une pression de 25 atmosphères ou 24,5 bars.

Le cylindre de la presse étant empli d'eau, on présente le premier tronçon du piston. Une fois celui-ci en place, on l'abaisse de sa hauteur en vidant un peu d'eau du cylindre, on pose le joint de cuivre et on présente le second tronçon... Ainsi de suite jusqu'au dernier tronçon. Quand la tête du piston est en place, on remonte la pression dans le cylindre - avec cette fois les 56 tonnes supplémentaires du piston — pour l'amener au contact du sas et la fixer. Encore un peu de pression pour remonter aussi le sas, et l'échafaudage, libéré, peut enfin être démonté. Au sommet du cylindre, une collerette, entretoisée sur la maçonnerie du puits forme presse-étoupe avec le piston. Une bande de caoutchouc garnie d'une feuille de cuivre est logée dans un vide annulaire ménagé dans le couvercle.



Reste ensuite à installer la machinerie et les commandes de manoeuvre. Entièrement hydraulique, la machinerie est composée en premier lieu d'une turbine alimentée par une chute d'eau de 12,80 mètres de hauteur branchée sous les ponts-canaux. La turbine, d'une puissance de 50 chevaux, entraîne un arbre vertical sommé d'une roue-pignon à dents de buis, laquelle entraîne une grande roue crantée. Cette dernière actionne quatre compresseurs à double effet, accouplés deux à deux, qui alimentent un accumulateur de 1250 litres. Ce dernier est un modèle à piston de 70 tonnes, dont 62 tonnes de lest, et de 0,80 mètres de course, produisant une pression de 29 kilogrammes par centimètre carré. L'accumulateur agit sur deux distributeurs connectés au tuyau de communication, qui permettent, soit de retirer de l'eau de la presse du sas descendant, soit d'en injecter dans la presse du sas montant. Edwin Clark, dans son projet initial, n'avait prévu que le seul accumulateur; ce sont les ingénieurs de la société Cail qui ont proposé l'adjonction des distributeurs, réalisés sans surcoût par leur entreprise.



Ils ajouteront également une seconde turbine de 15 chevaux, destinée à alimenter un compresseur d'air servant à gonfler la poche en caoutchouc assurant l'étanchéité entre le sas et le canal d'amenée, et à actionner les systèmes d'épuisement. Une machine à vapeur est aussi installée en secours pour soulager cette turbine dans ses fonctions d'épuisement. Mais elle semble avoir peu servi, si ce n'est à fournir de l'eau chaude pour protéger les canalisations contre le gel

L'instabilité du sous-sol menace la verticalité des presses

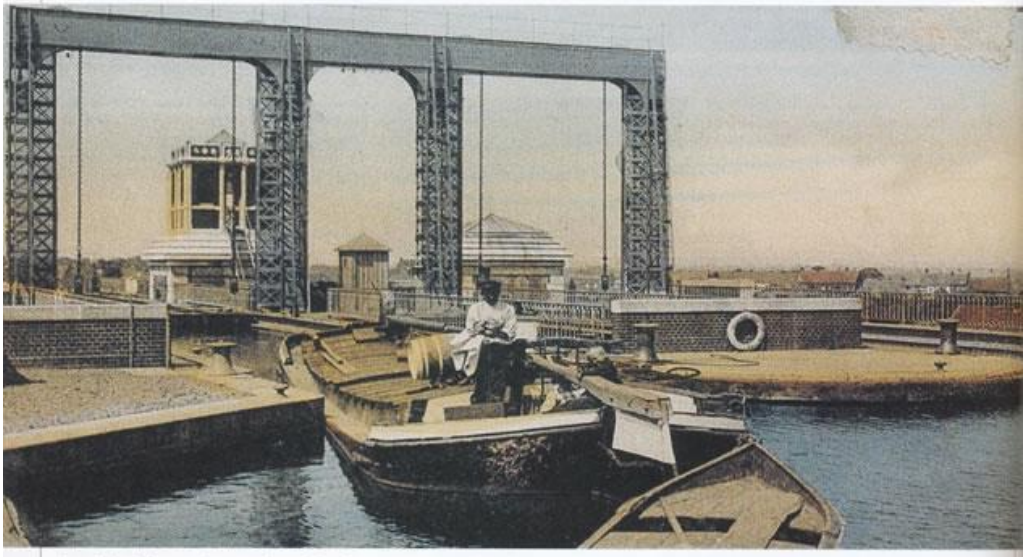
En haut : dessin publié dans *L'Illustration* à l'occasion de l'inauguration de l'ascenseur, le 8 juillet 1888.

Ci-dessus : le piston est en place. On remarque, au fon de la cale sèche, les tins, sur lesquels reposera le sas.

La construction de l'ascenseur, qui dure moins de quatre ans, est surtout perturbée par la médiocre qualité du sol. Sa porosité oblige à ériger "plusieurs rangs de murs d'assèchement", et nuit à la réalisation des bajoyers des contre-canaux, de la culée du canal d'amenée, ou encore du ballast de la voie ferrée. C'est un mal chronique puisque, un an après l'inauguration, des infiltrations dans le sous-sol entraîneront un affaissement du puits droit. Le piston n'est plus dans la perpendiculaire du sas, et il faudra un an pour le réparer. Six ans plus tard, en octobre 1895, une péniche et son chargement resteront plusieurs jours prisonniers du sas en position haute, suite à un nouveau glissement de terrain qui menace la verticalité d'une presse. Il faudra finalement, à l'aide d'un caisson étanche, injecter dans le sol de l'azote liquide pour le congeler et pouvoir achever la manoeuvre. Mais le remède n'est pas toujours efficace. On a ainsi vu d'importantes inondations noyer les cales sèches et provoquer le réchauffement du sol congelé artificiellement. L'ouvrage ne sera remis en service que trois ans plus tard.

Les essais de fonctionnement de l'ascenseur débutent en octobre 1887 et il est mis en service le 20 avril de l'année suivante. Mais l'inauguration officielle a lieu le 8 juillet 1888. Deux jours plus tard, Le Petit Journal rapporte en détail le déroulement de cette journée marquée par la présence de Pierre Deluns-Montaud, le ministre des Travaux publics: "La ville d'Arques est très joliment décorée; le maire, accompagné de son conseil, des diverses sociétés, des pompiers et des fanfares, s'est rendu à la rencontre [du ministre] jusqu'à l'entrée de la ville où se dresse un arc de triomphe, portant d'un côté ces mots : « Vive le ministre ! », de l'autre : «Une population républicaine à un ministre républicain». Les réceptions ont eu lieu à la mairie, avant le départ pour l'ascenseur dont l'inauguration a eu lieu à 5 heures. Le cortège se compose de quinze voitures. Le ministre est reçu par les autorités locales. M. Gruson, ingénieur, lui explique sur place l'ensemble du mécanisme, puis, avec sa suite,

[le ministre] se dirige vers l'ascenseur et monte sur une tour qui domine la plaine.



Une péniche halée au cabestan se présente à l'entrée du bac haut. Noter à l'arrière-plan, derrière le portique métallique, les sommets des trois tours, celle du centre portant la chambre de manœuvre.

La manoeuvre qui a été faite sous les yeux du ministre a parfaitement réussi. Deux bateaux étaient dans le sas, l'un au point inférieur, l'autre au point culminant. Ce sont l'Eldorado et la Phébé. Le signal est donné : la montée et la descente se font simultanément avec plein succès aux applaudissements de dix mille spectateurs. Puis le ministre prend place dans un bateau des Ponts et Chaussées et descend. La manoeuvre a été parfaitement exécutée. Le cortège a ensuite repris la route de la mairie où a lieu un banquet."

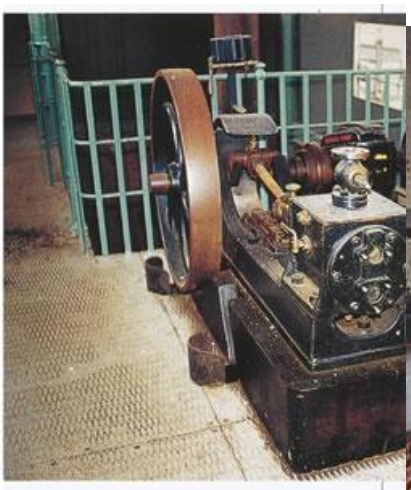
A part les problèmes géologiques évoqués plus haut, l'exploitation de l'ascenseur ne connaît pas d'incidents majeurs. Les archives mentionnent simplement un problème de fuite dans le circuit hydraulique, le 18 octobre 1888. Ce jour-là, alors qu'un bateau monté amorce sa sortie sur le pont-canal, son sas se met soudain à redescendre alors que l'index du distributeur indique la position fermée. Le chef de manoeuvre met aussitôt le distributeur à l'admission et parvient ainsi à relever le sas pour que le bateau achève sa sortie. Dans son rapport, l'ingénieur Gruson, alors en charge des Fontinettes, expliquera l'incident par une fuite sur ce distributeur, aussi bien en position fermée qu'ouverte.

En cette fin du XIXe siècle, le trafic fluvial sur le canal de Neuffossé se répartit de la manière suivante : 34 % de produits agricoles, 33 % de houille, 20 % de matériaux et de bois et 13% de marchandises diverses. A l'époque, cette voie d'eau est empruntée par une moyenne annuelle de treize mille bateaux, avec un chargement moyen de 60 tonnes. Au premier trimestre 1889, l'ascenseur a ainsi monté ou descendu deux mille sept cent quarante-trois bateaux.

Bien que l'Administration le considère parfois comme "un grand malade", l'ascenseur des Fontinettes fonctionne pendant près de quatre-vingts ans (1888-1967) à la satisfaction de tous. Désormais, 28 minutes en moyenne sont nécessaires pour monter un bateau et en descendre un autre. A raison de six bateaux par heure, et de douze heures de fonctionnement par jour, ce sont plus de soixante-dix bateaux qui sassent chaque jour, soit deux fois plus que n'en pouvait absorber l'échelle d'écluses en vingt-quatre heures.

Pourtant, l'ascenseur des Fontinettes sera vaincu à son tour par la course au gigantisme du transport fluvial. Au début des années 1960, certaines péniches ne peuvent déjà plus emprunter le sas sans que soit déposé leur safran. Le 16 août 1967, une nouvelle écluse, construite à l'emplacement de l'ancienne échelle d'écluses, est mise en service. Son sas unique permet de racheter d'une seule éclusée les 13,13 mètres de dénivelé, et elle peut accueillir des convois de 1350 tonnes et de 144 mètres de longueur.

L'ascenseur à bateaux est alors promis à la destruction. Après une décennie d'abandon, un mouvement d'opinion parvient toutefois à sauver cet ouvrage contemporain de la tour Eiffel, et à le faire classer Monument historique. Depuis lors, une association s'efforce de le faire survivre par des visites et une exposition, en attendant la restauration qu'assurément il mériterait. Hélas, le toast prononcé par le sénateur Ribot lors de son inauguration était prémonitoire. "La science de nos jours trouve l'ascenseur hydraulique des Fontinettes remarquable, avait-il dit, mais qui peut répondre que, dans cent ans, nos petits-fils n'auront pas trouvé mieux?"



L'ascenseur des Fontinettes dans son état actuel : en haut à gauche, la roue crantée actionnant les deux couples de compresseurs ; à droite, le petit compresseur à air qui servait à gonfler la poche en caoutchouc assurant l'étanchéité entre le sas et le pont-canal ; ci-dessus, un bateau montant engagé dans le sas, porte fermée.

Chasse-Marée 205

Inséré le 25/07/15 NIEUWS NOUVELLES Enlevé le 25/08/15

"Verdrinken zonder water"

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

Bij Walburg Pers verscheen zopas 'Verdrinken zonder water. De memoires van VOC-matroos Jan Ambrosius Hoorn, 1758-1778'. Bezorgd en ingeleid door Perry Moree en Piet van Sterkenburg. De 17-jarige Jan Ambrosius Hoorn, geboren in Gouda, vertrok in 1758 zonder medeweten van zijn ouders naar Azië op het VOC-schip 'Leiden'. Hij maakte veel mee: ziekte en sterfte aan boord, mishandeling door officieren, kannibalisme op Timor, en een militaire expeditie in Siak. Hoorn keerde in 1762 terug in Amsterdam en scheepte een jaar later in op de 'Lekkerland' richting Ceylon. Ongelukkig in de liefde, zeilde hij gedesillusioneerd naar Batavia. Na allerlei baantjes werd Hoorn in 1770 benoemd tot substituut waterfiscaal bij de Raad van Justitie in Batavia. Zo kreeg hij gelegenheid te participeren in de wijdverspreide corruptie en zelfverrijking tijdens de nadagen van de VOC. In 1778 keerde Hoorn als welgesteld man naar de Republiek terug en vestigde zich als rentenier in Zwolle, en later in Kampen, waar hij overleed. De Groninger uitgever Wolter van Boekeren tekende Hoorns Aziatische avonturen op. Het resultaat verscheen in 1819 onder de titel "Mijne lotgevallen ter zee, en bedrijven op Batavia. In dienst de (voormalige) O.I. Comp.' Het is een goed leesbaar verhaal, vol overdrijving en zelfoverschatting, van een eigenwijze, handige en soms emotionele man. De bezorgers van Hoorns memoires gingen op zoek naar het waarheidsgehalte van de sterke verhalen van Hoorn. En wat bedoelde hij met "verdrinken zonder water"?
"Verdrinken zonder water" (ISBN 978-90-5730-995-3) telt 256 pagina's, werd als hardback uitgegeven, en kost 33,65 euro. Aankopen kan via de boekhandel of rechtstreeks bij Uitgeversmaatschappij Walburg Pers, Postbus 4159, 7200BD Zutphen. Tel. +32(0)575.510522, Fax +31(0)575.542289. . In België wordt het boek verdeeld door Agora Uitgeverscentrum, Aalst/Erembodegem. Tel. 0032(0)53.78.87.00, Fax 0032(0)53.78.26.91, www.boekenbank.be , E-mail: admin@agorabooks.com.

Inséré le 27/07/15 NIEUWS NOUVELLES Enlevé le 27/08/15

Marine Insurers Wary of Arctic Shipping Routes

The melting of sea ice presents opportunities for international marine transportation networks in the Arctic, at least during the summer months. Recent discoveries of oil and the potential financial and time savings are making the Arctic routes more appealing to the shipping industry. Two viable Arctic sea routes exist, enabling ships to move between the Atlantic and Pacific Oceans, thus cutting the distance between East Asia and Western Europe.

The routes offer alternatives to the Panama and Suez canals, but they are not without risk. Extreme climate and weather conditions create unique hazards, including floating ice, thick fog, and violent storms.

Despite new safety features, vessels remain vulnerable to ice damage, machinery breakdown, and more. The harsh environment also creates challenges for crews, few of which have been trained for or have experience in such conditions, according to insurance broker and risk adviser Marsh.

"A host of safety and navigational concerns may limit and/or prohibit the possibility of rapid growth in Arctic transit for the foreseeable future."

The international shipping industry is keen to start maximizing the opportunities afforded by Arctic navigation. Yet the marine insurance industry — essential to the commercial viability of Arctic transit — holds a host of safety and navigational concerns, which may limit and/or prohibit the possibility of rapid growth in Arctic transit for the foreseeable future.

The rapid development of fledgling Arctic shipping routes is dependent upon improvements in the capabilities of vessels navigating them and the upgrade and expansion of the support facilities in the region.

Marcus Baker, Chairman of Marsh's Global Marine Practice,said: "While marine insurers are largely supportive of the development of Arctic shipping routes, they are extremely wary about incurring large, high profile losses while the market is still in its infancy.

Currently, the majority of ships and their crews lack adequate experience, are unprepared, and the support facilities are not yet in place for full-scale commercial voyages through the Northern Sea Route and the Northwest Passage. In the absence of hard facts, it is extremely difficult for marine insurers to price an insurable risk, or even to agree to cover a voyage in the first place."

According to Marsh, in considering the provision of marine hull and protection and indemnity (P&I) insurance, insurers and P&I clubs require more detailed information about

vessel capabilities and available salvage services, with wreck removal, pollution risks and crew health and safety of major concern to underwriters.

Steve Harris, a senior vice president in Marsh's Global Marine Practice, said: "The majority of transits that have already taken place in the Arctic were one-off voyages that have been permitted as extraordinary ventures, and were usually government-backed or sponsored.

Risk presentation is critical. Only if shipping firms can present insurers with the information they require, and all parties concerned take a collaborative approach to calculating these risks, will insurance capacity be readily available to support the growth in Arctic navigation."

Inséré le 27/07/15 DOSSIER Enlevé le 27/08/15

A resilient position

Accurate positioning is a fundamental cornerstone of vessel navigation. Global navigation satellite systems (GNSS) like GPS have been used for many years – but other alternatives need to be included if the industry wants automatic positioning to be truly resilient, writes Dr Andy Norris

GPS satellites are integral to modern position fixing – but should not be used in isolation. PHOTO: NASA

At some time in the future we will reach the situation where we can always rely on the automatic position fix given by a vessel's navigation system, unless there is an associated warning.

It has been technically feasible for some years but the cost and other difficulties in getting internationally agreed requirements on positioning resilience has meant that limited progress has been made towards any implementation.

Today's relatively low number of accidents fundamentally caused by incorrect positional information has probably limited the urgency of the matter for the majority of those involved in international maritime legislation.

Not least, modern GNSS receivers are likely to provide an alert if all is not well with the received signal or there is a local failure in the onboard positioning system.

However, there is a strong body of opinion that without system-level resilience there will be catastrophic incidents within the maritime world should GNSS experience unexpected outages or positional inaccuracies over a wide area.

Severe levels of radiation from solar or galactic sources are seen as the most likely scenario that could cause wide-area outages of GNSS. More local but still severe effects can also be caused by intentional or even unintentional jamming of the satellite signals.

Despite this body of opinion, it currently looks very unlikely that vessels will be mandated to fit high integrity positioning systems for some time, perhaps 7-10 years.

With some irony, a major new influence on the introduction of high integrity positioning will undoubtedly come from the rapidly growing interest in transport automation in all sectors – sea, land and air.

The existence of wide area high integrity methods of position determination will make both fully automated and the remote control of systems very much easier to implement.

Relative position

Of course, the reality of human-centred navigation is that a knowledge of precise and continuous absolute position is not a fundamental requirement for safety.

What is absolutely necessary is knowing one's continuous relative positional information from hazards with an accuracy rather better than the applied safety margin.

The required relative accuracy to ensure navigational safety in ocean and other situations far from charted dangers amounts to very many miles except for avoiding collisions with floating obstacles, not least other vessels.
In coastal areas this does substantially reduce – and docking certainly requires a relative positioning accuracy of just a few decimetres.

The concept of relative positioning navigation is fully embedded within conventional visual and radar-based navigation and is particularly used as the fundamental method for avoiding collisions with other vessels.

It forms the logical primary basis for navigation in busy areas such as approaches to ports and harbours.

This is because the main sensors for the activity, eyes and radar, give continuous information in a form that readily allows the human brain to assess the positional relationships of own vessel with both fixed and moving hazards.

Of course, as a general rule such areas have their safe waters appropriately marked, both for visual and radar detection.

The chart, whether electronic or paper, is primarily being used to assist situational awareness and certainly not whether any particular hazard is going to be missed by a narrow margin.

Of course, in all situations – even in a well-buoyed port entry – the accurate portrayal of own-ship position on an electronic chart is always a highly useful extra but it is not an essential feature for safety.

It particularly helps to confirm the actual situation – any perceived anomalies will rightly create a need to resolve them.

In areas that include charted hazards that are invisible to sight and radar then the appropriate strategy for avoiding these has to be carefully pre-planned. The use of absolute positioning systems becomes highly valuable in such circumstances.

However, there remains a current need for the strategy to include back-up information from relative positioning techniques, such as the use of parallel index line techniques on radar.

Precise positioning

The real value of absolute positioning systems comes particularly into play for ocean and regular coastal passages.

A well planned route that is followed to good accuracy will be safe and fuel efficient. In particular, it must be planned to permit safe, easy and ample deviation to allow the vessel to readily comply with the COLREGs at any point along the route.

A truly resilient absolute positioning system would make the monitoring of route maintenance a relatively trivial activity.

Of course, there is a well justified fear that some bridge watchkeepers assume this is the case today and only make sure that the indicated position on the electronic chart lies on the planned route.

However, proper awareness of the present-day risks of over-reliance on the indicated absolute position, as is currently extensively taught at maritime colleges, emphasises the necessity to constantly review other positional indicators for consistency.

In coastal areas, both radar and visual analyses based on charted objects including natural features such as coastlines can readily give good confidence in the indicated absolute position.

A chart radar or the facility to temporarily overlay the raw radar image onto an ECDIS display makes this a straightforward exercise.

Regular checks also significantly help the situational awareness of the navigator, more generally enhancing the quality of navigational decisions.

When there are no geographically fixed radar or visual targets in view, such as during ocean passages, things do become more difficult.

In these cases, dead reckoning and estimated positioning – and even celestial techniques – have to be utilised, helped nowadays by the fact that ECDIS statutorily incorporates relatively sophisticated DR/ EP facilities.

Accurate verification of GNSS position does become a very much more difficult issue in such areas but is rarely a significant safety issue.

Loss of GNSS

A significant current issue with any loss of GNSS signal is the confusion of alarms that are typically generated on the bridge.

Many bridge systems rely on GNSS and so the alarms may be quite extensive across the bridge, requiring a lot of mental and physical effort to assess what is happening before being able to appropriately deal with the situation.

In ocean regions and other non-busy areas far from land or other hazards, the confusion would be extremely unlikely to result in an accident but it could be an issue for a short period for vessels closer to land or in busier areas.

Fortunately, the ongoing mandatory introduction of Bridge Navigational Watch Alarm Systems, with completion scheduled during 2015, should readily assist faster and better assessments of such situations.

It can be expected that an area-wide problem with GNSS would rapidly become apparent to coastal authorities.Resultant safety broadcasts on the situation would help clarify matters, potentially just a few minutes after such a failure.

Once there is overall awareness the situation will rapidly become safer but a major disruption to traffic flow would be likely as vessels slow to concentrate on navigating without GNSS, although in port and harbour approaches this would not be so pronounced.

In such areas there is also likely to be a pilot on board whose own local knowledge would help in preventing incidents.

If the outage were to continue for more than a few tens of minutes the authorities would presumably become involved in local plans to alleviate potential dangers, perhaps

requesting vessels to reduce speed and even encouraging temporary anchorage in suitable areas.

Any long term outage of GNSS, measured in days or weeks, would certainly put a severe and damaging brake on the world. In some areas even famine could potentially result.

If this is a real threat then it creates a much stronger case for the earliest possible implementation of resilient positioning than that of vessel safety.

However, in the absence of resilient positioning we must ensure that all watch officers are quickly able to assess a potential problem with GNSS and the resultant actions required. This partly ship specific response should really be emphasised as part of the familiarisation process when joining a new vessel.

Lastly, if GNSS jamming ever becomes a practised threat to shipping outside of international conflicts, then a massive clampdown would need to be promptly instigated.

Fortunately, just transmitting a jamming signal makes you very vulnerable to precise detection, location and arrest.

Digital Ship

Inséré le 29/07/15 NIEUWS NOUVELLES Enlevé le 29/08/15

Innovative oil cleaning process introduced

This process cleans oily surfaces, such as ship tanks, by being sprayed in an undiluted condition onto the oiled surface. Following a short period, CYTOCLEAN coats the oil and isolates it from the water on the surface of a tank wall.

At the end of the process, the water and oil can then be collected separately with the water claimed to be clean enough to be re-circulated, or re-used in the next cleaning cycle without any further treatment being required. The oil can also be reused with any additional treatment. The oiled surface can be cleaned following a single application, Global Concept claimed. No residues remain after the cleaning process.

CYTOCLEAN can be used for any type of mineral oil and has been tested and approved by the US Environmental Protection Agency (EPA) and the Norwegian institute SINTEF. It was also nominated for this year's Green Ship Technology Award, due to "its impressive results in the cleaning of oiled ship tanks while on voyage" – and was awarded second place.

It is a biological and non-toxic product, which is claimed not to harm the environment. It is biologically declinable with a 50% life-span of only 96 hours. It also does not harm the surface being cleaned.

Several shipowners have already tested the process. Costs can be saved as the concept cleans surfaces faster and more effectively than other processes, as no chemicals are used.

There are also no costs involved in disposing of hazardous wastes, or in transporting heavy equipment to the site to be cleaned. Following the process, the treated tanks are washed down with water under low pressure. The ensuing oily/water mixture is then pumped into

empty containers (IBCs), stowed on deck. After a short while, the clear separation of oil and water inside the IBCs can be seen, Global Concept said.

An independent laboratory specialising in mineral oil has analysed the viscosity, density, water content and sulphur content of a tank both before and after the treatment. Global Concept also produced a material safety data sheet in accordance with EC Directive 91/155/EEC.

Specialist cleaning team

Global Concept head Klaus Vrey explained that the company had formed what it called a CATCO team, which undertakes the cleaning without the need for additional space on board and without disturbing the daily working regime on the vessel, while it is on voyage. The team is available for consultancy, support and action 24/7. Vrey said that theteam offers three levels of support -

- Environmentally friendly, biological and non-toxic cleanup without producing additional dangerous waste.
- Minimising costs by complete recycling.
- Customer orientated, open minded consultancy and support, including an effective cleanup task force at any location. Vrey explained that the time taken to clean a tank depends on many different factors, but for example for a cargo tank that can be 'butterworthed', it would take no more than four times the Butterworth system, plus a maximum of one hour for the CYTOCLEAN contact time. This means that a mid-size cargo tank should be cleaned and ready for loading within four hours.

If ballast, heeling, double bottom, or bunker tanks need cleaning, the time used depends on the placement of the tanks on board and also how many frames are involved, etc.

For example, a Ballast tank with a capacity of about 300 cu m should not take more than one day to be clean and gas free. All the times are dependant upon the quality of fuel oil and grade of contamination.

Thus far, Vrey said that the company had cleaned ballast, heeling, double bottom and bunker tanks. But he explained that there are no tank types that are favourites for CYTOCLEAN process, as it combats all types of mineral oils and hydrocarbons.

He also stressed that CYTOCLEAN not only saves time and money but also protects the environment and is the only method of cleaning vessels' tanks during a voyage without the need to use any heavy equipment, which save costs.

Among Global Concept clients thus far are several shiprepair yards and shipmanagement concerns, plus bunker suppliers.

TankerOperators

Inséré le 31/08/15 NIEUWS NOUVELLES Enlevé le 31/08/15

Saudi set to become major product exporter

Most brokers and analysts will point towards the moving of refinery capacity to be near the

world’s oil producing areas, rather than in the areas where the product is distributed, once refined.

For example, ageing western refineries have struggled to compete against newly built, higher-specification refineries.

In Europe, there has been a virtual shutdown of refinery capacity, except for a few areas. While this has not helped the long haul large crude carriers, it has certainly benefited the carriage of refined products.

One country looking to take advantage of the shift of refining capacity is Saudi Arabia. Once a huge exporter of crude to the east and west, the country now plans to become a leading player in refined products exports.

According to a report from Lloyd’s List Intelligence, three new refineries are due to come on stream between the end of 2013 and 2016, adding 1.2 mill barrels per day to the current 2.1 mill barrels per day throughput, according to the Energy Information Association (EIA). The aim is to increase production of diesel, gasoline and jet fuels for the growing domestic and international market.

However, Saudi Arabian refined product exports slipped slightly during the middle of this year, as domestic demand increased. This demand was driven by relatively high oil prices over a sustained period increasing the disposable income of the population. In 2008 the Kingdom exported just over 372 cargoes, which slipped to 355 last year.

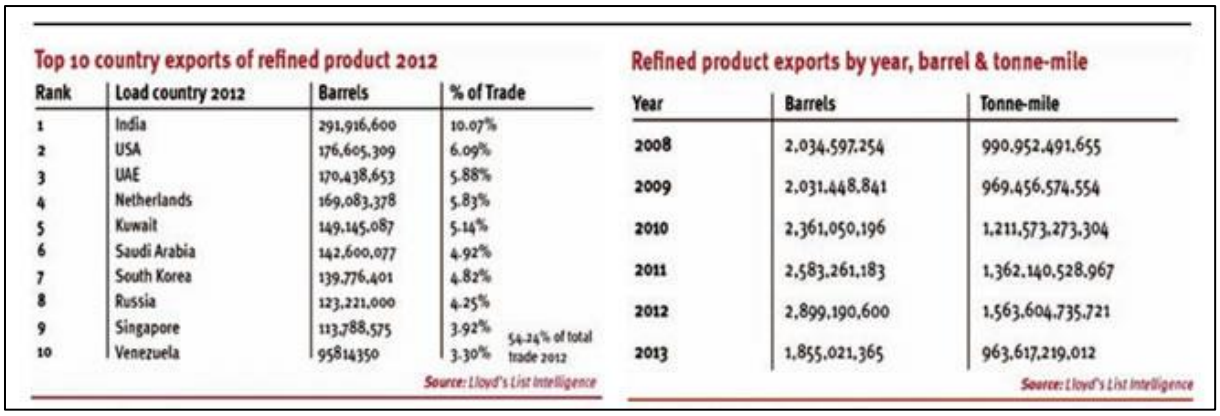
Global demand for refined products has increased the vessel tonne/mile demand by over 60% in five years from 990 bill tonne/miles to over 1.5 trill tonne-miles last year. Current figures show levels of 963 bill tonne/miles so far this year (early August), as refinery closures and emerging markets drive seaborne demand.

Indian refiners such as Reliance and Essar have already profited from the change in market conditions after upgrading their refineries to increase complexity and throughput, allowing them to refine cheaper crude grades to produce higher quality refined products, increasing their export share.

Saudi Arabia’s move to increase its refining capacity has not gone unnoticed and Saudi oil ministers have moved to assure buyers that the country will continue to act as a global buffer for the crude market. The country’s oil industry is investing billions of dollars to enhance and increase crude oil production from the 12.5 mill barrels per day capacity this year to 15 mill barrels per day in the next five years to ensure an adequate supply of crude oil for domestic purposes, as well as for global exports.

The Kingdom has commited itself to the development of its refining sector by investing in crude oil production and by aiming to supply 50% of its own energy needs by renewable sources by 2020. These moves are aimed at freeing up crude oil supplies for refining to supply the growing international refined products market.

Lloyd’s List Intelligence data revealed growth in the global demand for product tankers larger than 60,000 dwt in the last five years.



Top 10 country exports of refined product 2012

Rank	Load country 2012	Barrels	% of Trade	
1	India	291,916,600	10.07%	
2	USA	176,605,309	6.09%	
3	UAE	170,438,653	5.88%	
4	Netherlands	169,083,378	5.83%	
5	Kuwait	149,145,087	5.14%	
6	Saudi Arabia	142,600,077	4.92%	
7	South Korea	139,776,401	4.82%	
8	Russia	123,221,000	4.25%	
9	Singapore	113,788,575	3.92%	54.24% of total trade 2012
10	Venezuela	95814350	3.30%	

Source: Lloyd's List Intelligence

Refined product exports by year, barrel & tonne-mile

Year	Barrels	Tonne-mile
2008	2,034,597,254	990,952,491,655
2009	2,031,448,841	969,456,574,554
2010	2,361,050,196	1,211,573,273,304
2011	2,583,261,183	1,362,140,528,967
2012	2,899,190,600	1,563,604,735,721
2013	1,855,021,365	963,617,219,012

Source: Lloyd's List Intelligence

In 2008, it tracked more than 5,100 refined product voyages on tonnage larger than 60,000 dwt, rising to more than 7,000 voyages in 2012. This year is likely to mirror last year, as more than 4,300 voyages have confirmed up to the end of August.

The figures revealed growth both in vessel sizes and voyage numbers: 60,000 dwt-80,000 dwt remain the vessel of choice for most journeys but have lost almost 11% of their market share to 53.1% this year.

However, the number of voyages increased from some 3,300 in 2008 to nearly 4,100 in 2012.

This year is looking even better for Panamax owners, with more than 2,280 voyages undertaken to date.

Aframaxes have increased their presence in the market 5% to around 40% of the total volumes transported, the number of shipments was up from some 1,700 in 2008 to more than 2,500 in 2012. For 2013, voyage numbers already top those in 2008. Suezmax vessels have also increased their presence in the products sector.

In the last five years, the number of dirty product voyages has increased from 36 to more than 200 and the number of clean voyages has risen from 16 to 60, increasing Suezmaxes' foothold in the product trades by 5.3% to 6.3%.

Global demand for refined products has increased the vessel tonne/mile demand by over 60% in five years from 990 bill tonne/miles to over 1.5 trill tonne-miles last year. Current figures show levels of 963 bill tonne/miles so far this year (early August), as refinery closures and emerging markets drive seaborne demand.

Indian refiners such as Reliance and Essar have already profited from the change in market conditions after upgrading their refineries to increase complexity and throughput, allowing them to refine cheaper crude grades to produce higher quality refined products, increasing their export share.

In 2008, India exported 261 product cargoes by sea on vessels larger than 60,000 dwt. This increased to 655 in 2012. This year looks promising with more than 370 shipments recorded during the first half of the year.

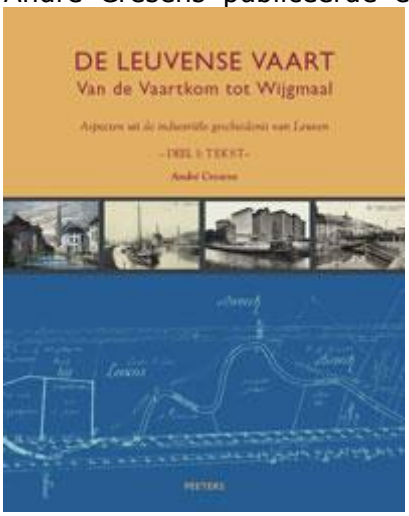
Demand for tankers is unlikely to rise dramatically in the near term as the market is — and will be — oversupplied with tonnage for some years yet, the report said.

Nevertheless, there will always be a market for smaller, more flexible product tankers and the increase in demand from the product sector will be very welcome, especially for larger, long range tankers.

Tanker Operator Oct 2013

Inséré le 02/08/15 BOEKEN BOOKS LIVRES Enlevé le 02/09/15

Standaardwerk over de geschiedenis van Leuvense Vaart



André Cresens publiceerde een magistrale en rijk geïllustreerde geschiedenis van de Leuvense Vaart van de Vaartkom tot Wijgmaal. De historische ruimtelijke planning rond de Leuvense Vaartkom vormt het uitgangspunt van deze studie met de nooit eerder gepubliceerde voorontwerpen, de oorspronkelijke loop van de Dijle en de ontwikkeling van de infrastructuur. De studie is gebaseerd op een systematisch onderzoek van het kadasterarchief van alle percelen rond de Vaartkom en de Vaart tot Wijgmaal betreffende de 19de eeuw en de periode tot de Eerste Wereldoorlog. Dit geeft een inzicht in de ontwikkeling van de bedrijven, we leren een aantal families of personen kennen die een belangrijke rol speelden bij de industrialisatie van de Leuvense Vaart en er komen verrassende verbanden op binnen- en buitenlands vlak tot uiting. Deel 2 bevat vele originele niet eerder gepubliceerde documenten en foto's. De *Leuvense Vaart* is in de eerste plaats een wegwijzer en een naslagwerk voor al wie de industriële geschiedenis van Leuven verder wil uitdiepen of interesse heeft voor industrieel erfgoed, architectuur, transporteconomie, historische geografie, ruimtelijke ordening, bedrijfsgeschiedenis en genealogie. Bestellen kan op de website van Uitgeverij Peeters

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Inséré le 02/08/15 NIEUWS NOUVELLES Enlevé le 02/09/15

Ship agents count the cost of avoidable errors

International Transport Intermediaries Club (ITIC) has emphasised how avoidable errors can prove expensive for ship agents.

In the latest issue of its Claims Review, ITIC recounts how a ship agent at a tidal port in Japan was asked to provide a tide table to enable the owner of a ship to calculate the permissible drafts for the dates that its ship was due to berth at the port. The ship agent duly scanned the tide table and sent it electronically to the owner. The ship arrived at the port with a draft of 8.56 m, but was informed by the port authorities that the permissible draft was only 7.8 m. It emerged that the agent had inadvertently sent the owner the tide table for 2012 instead of 2011. The two tide tables were kept together in the same file and, during the scanning process, the corner of the tide table had folded over, thereby obscuring the year. The excess draft meant that the ship could only discharge for about four hours in the morning and two hours in the afternoon. The ship had to shift anchorage

three times during the four days it took to discharge, which was twice as long as it should have taken.

The owner claimed the pilotage and towage costs involved in shifting to the anchorage three times, plus two days' hire, additional bunker consumption, and additional stevedoring, for a total of $143,000. It was agreed by the owner that some of the costs would have been incurred in any event, and the claim for additional costs was settled at $120,000. In another case reported by ITIC, shipowners appointed a port agent for a bunker call by their vessel. The agent failed to complete the required customs formalities in time to book the berth, a mistake which went unnoticed until the vessel was approaching the port. After being notified by the agent of the mistake, the shipowner decided to divert the vessel to another port around 500 km north of the original port as the bunker berth at the first port was not due to become free for another five days. The ship agent also operated within the second port and the bunkering proceeded without incident. When the time came to settle invoices totalling $26,000 from the various service providers in the second port, the owners refused to pay, claiming that these additional costs had been incurred as a result of not being able to call at the original port. The costs were in fact the normal charges relating to bunker calls, such as tugs, security charges and pilotage, and would have been payable by the owners in any event, even if the vessel had been able to call at the original port. However, the vessel had been delayed by two days and it had incurred estimated costs that exceeded this amount for fuel and other services, as a result of having to travel 500 km to the second port. Rather than enter into a dispute with the owners, the ship agent paid the port costs for the bunker call, and was reimbursed by ITIC.

Inséré le 04/08/15 DOSSIER Enlevé le 04/09/15

eLoran looks to prove its worth

eLoran, an alternative to GNSS systems for maritime positioning, has been installed in the UK, where its use could determine whether the technology eventually becomes a mandatory carriage requirement as a back-up for systems like GPS. Digital Ship spoke to Martin Bransby of the General Lighthouse Authorities (GLAs) of the UK and Ireland about the rise of eLoran

The UK's eLoran (Enhanced Long Range Navigation) system went live in 2014, reaching initial operational capability on the east coast of Britain and the busy waters of the English Channel and the North Sea. Developed by the General Lighthouse Authorities (GLAs) of the UK and Ireland, eLoran is seen as a complementary backup to GPS, which is susceptible to interference from various sources, including space weather and GPS jammers.

The eLoran system uses technology based on longwave radio signals which are 1 million times more powerful than GPS. Seven land-based monitoring stations, from Dover to Aberdeen, will serve the east coast.

The UK is the first in the world to deploy this technology for shipping companies operating both passenger and cargo services, with rollout first approved by the UK Department of Transport in 2013.

If the initial operational capability is deemed a success, full operational capability covering all major ports in the UK and Ireland could be reached by 2019. It's a project that's been a long time in the making, according to Martin Bransby, research and radionavigation manager at the GLAs.

"We' ve been developing eLoran now since 2007 - that's when we first moved our transmitter from the midlands up to Anthorn," he told us.

Galatea, one of the GLAs ships, has been fitted with an eLoran receiver as part of ongoing trials of the system off the UK coast. Photo: GLAs

"We were doing some work before that, and we're pursuing it because the technology is mature, it's here and it's now, and there' s nothing to provide the resiliency we need to GNSS vulnerability that's around at the moment that's as mature as eLoran."

Global Navigation Satellite Systems (GNSS) include the Unites States' GPS, as well as Russia's GLONASS, China's BeiDou, and the European Union's Galileo system, expected to be fully operational by 2020.

They use time signals transmitted along a line of sight by radio from satellites to electronic receivers, allowing for determination of position around the globe to within a few metres.

Use of GNSS has become widespread in shipping and other forms of navigation, but the system is not without its weaknesses, and eLoran has the potential to serve as a backup when satellite location services are not available.
"All GNSS systems operate at very similar frequencies," explained Mr Bransby.

"They've all got similar output powers from the satellites, which is below the noise floor when it gets to the earth's surface, so they're vulnerable to the same things: noise, whether that's from space weather or if it's from intentional or unintentional jamming."

"Loran doesn' t operate in that way. It's a completely different frequency. GNSS operate at around 1.5 GHz and typically the satellite has got a 50 watt output power, which is in the microwatts when it gets to the earth's surface. Loran operates at 100 KHz and about 250 kilowatts output power from the transmitter, so you can see it's very different. It operates in exactly the same way as GNSS does, in so much as it uses ranging for getting a signal, but at very different specifications."

GPS, ubiquitous across everything from SatNavs to smartphones, claims standard accuracy of around 15 metres, but can be augmented to achieve accuracy of about three to five metres. Using differential stations, eLoran can boast accuracy of under ten metres according to Mr Bransby, enough to comply with IMO regulations for port and harbour entrance.

"We' re providing it for maritime use in ports and harbours, and we can get subten-metre accuracy from it, which is using differential reference stations. If we don' t use differential reference stations, we can get about sub 20 metres," he told us.

"But we apply these in situations where we would need sub 10 metres. So for instance, the IMO say that you need to have sub 10 metres for the harbour entrance and port approach phase of navigation, whereas for coastal navigation that's not as stringent, which is why we say we won' t provide differential services for coastal navigation. So the 20 metres accuracy is good enough for coastal navigation."

Resilience

One area where eLoran does claim to have a significant advantage over GNSS is in the robustness of the signal.

The relatively weak signal used across GNSS systems is susceptible to jamming, whether accidental or malicious. According to the GLAs, jammers are available online for as little as £30, but estimating how extensive the disruption is can be problematic.

"We' ve seen effects in various different places over a number of years, but it's difficult to try and grasp the size of the problem," said Mr Bransby.

"It might be that sometimes a ship's captain, for instance, would notice that something was wrong with his equipment, and sometime later it might be ok again, and he may never even report it and just think it was a glitch."

Mr Bransby relays a story from a number of years ago in San Diego, where jamming equipment used by a US navy vessel inadvertently disrupted systems all over the downtown San Diego harbour area, knocking out telecommunications and the cellular phone grid. While incidents on that scale may be rare, issues affecting individual ships are more frequent, and have potentially dangerous consequences.

"More recently, we' ve seen some effects on a ship coming into the port of Dublin where the GPS log from the system reported that it couldn' t get a fix. Now, we don' t know what that was, but it was clearly a problem somewhere," said Mr Bransby.

"It was a vehicle carrier, carrying trucks and vans, so we think there may well have been some sort of device on board in one of the trucks that was causing it."

A ship losing the ability to navigate when entering a port has the potential to be disastrous, and with mariners increasingly relying on electronic aids, backup systems are likely to become more prevalent. Ideally, this backup system should begin operation seamlessly when required, and this is precisely what the GLAs have been working on.

"We' ve been developing a receiver which automatically cuts over to eLoran in the event of the receiver seeing some of these effects on GPS, or any GNSS, but we' ve been specifically using GPS to do our trials. We' ve conducted trials where we' ve operated a GPS jammer, and our receivers then automatically cut over to using eLoran," Mr Bransby explained.

"In circumstances like I've just described coming into Dublin Port where there were some issues, the navigator wouldn' t even see those, because the receiver would automatically see it and then cut over to using eLoran. Then when the GPS signal came back again, it would then cut over to using the GPS signal."

"Effectively yoûve got a receiver, which is a GPS feed and a Loran feed, and it makes a decision based on the quality of the GPS signal as to which to output, whether it's GPS or eLoran. In our trials we saw it output eLoran, and the ECDIS or the other systems on board don' t even know that they're using eLoran. There' s a little light in the corner of the screen that tells you yoû re using eLoran instead of GPS, but that's just to inform the mariner that he' s using a different system. The systems on board the ship aren' t really bothered. They're getting, effectively, the same data out of the receiver to be able to navigate with."

Reliance

The original Loran system was developed in the US during World War II, and primarily used by the military and large commercial operators due to the high cost. Its range was up to 1,500 miles, but accuracy was only within tens of miles, which meant its use was largely restricted to convoys in the Atlantic, and ships and aircraft in the Pacific theatre.

Improvements in accuracy and range continued throughout the fifties and sixties, but advances in other systems meant Loran was gradually phased out in North America by 1980.

Today, the US relies heavily on GPS, but the threat of disruption from solar weather and cyber-attack makes that system look increasingly vulnerable. In its search for a backup, the US has pulled together 'Tiger Team' , a panel of experts whose purpose is to "Re-explore eLoran as a back-up GPS technology."

"The United States has just instigated a team of people to once again look at eLoran as a backup to GPS, and that's happening at the minute," explained Mr Bransby.

"We' ve been engaged with some of the people who are doing that, and I think their report is going to be expected within the next couple of months or so. So the US is once again looking at eLoran as a backup to GPS."

A factor the US will have to carefully consider is the cost of implementing eLoran, given the length of coastline over which differential stations would need to be deployed. Once the stations are in place however, and the initial capital outlay is complete, operation and maintenance costs are lower than other systems, and the benefits extend beyond simply maritime navigation.

"Obviously there are infrastructure costs. It's the differential stations that you would need for maritime in harbours that would be the cost, but we' re only talking £30,000-£50,000 each, so they're not massive amounts," said Mr Bransby.

"The way I always say it is, really, yoû re buying an insurance policy for when ships lose GPS, or any other systems lose GPS, because it's not just maritime. I know we're specifically talking about maritime, but eLoran can be used anywhere in critical infrastructure that we now use GPS."

The extent to which we rely on GPS and other GNSS isn' t simply limited to positioning and navigation.

The timing signal delivered by GNSS is used by telecom companies to coordinate how mobile phones connect with towers. Energy companies use GPS for synchronising electricity grids when connecting them together, and banks and stock markets use the satellites for time-stamps that prevent fraud.

The timing signal from GPS is clearly vital for the maintenance of our infrastructure and economy, but it has the same vulnerabilities to jamming outlined above. eLoran can act not only as a navigational backup to GPS, but also provide a more robust timing signal, says Mr Bransby.

"It's a very accurate timing signal. It's an atomic clock effectively, better than the Stratum 1 standard that's used for telecommunications. It's as good as, if not better than, GPS," he told us.

"Telecoms use it for timing of cells, for instance on mobile telephone networks. It's used for timing of financial transactions in the City. A lot of financial transactions are timed using GPS, so the backup could be eLoran, or in fact you could use it as a primary source of timing. Because it works at 100 KHz, you could actually receive the timing signal within buildings, whereas the GPS signal doesn' t penetrate buildings."

"It's not operational yet, but there are some colleagues of ours who work in the timing industry, partners we've been working with, who are looking at that. They've been looking at it for timing of communications. The police TETRA network is timed using GPS for instance as well, so it wouldn't take much to bring that down. So eLoran could be used for that. There are all sorts of different applications for timing. Where you would use GPS for timing now, you can use eLoran."

The fact that that the signal is so durable makes it attractive for infrastructure and military applications, where disruption could have an impact on the delivery of vital services. While GPS undoubtedly has some advantages over eLoran, it also has some restrictions that eLoran can overcome.

"I know the United States is looking at (eLoran), on test purposes, for electricity distribution and smart grids, because you can get it cheaply within buildings. You can also penetrate some distance beneath water too if you need to, for whatever application that would be. Not deep underwater, but to within about 30 metres below the surface, and you can obviously see advantages of that for maybe military applications as well," said Mr Bransby.

"Commercial exploitation would really be through telecommunications, mobile communications. Mobile telephone companies pay fortunes, as we know, from the whole 3G and 4G sale of bandwidth and that kind of thing. Now if they could guarantee coverage because they had robust timing, at the edges of networks, or even in small cells within cities, within buildings, then I'm sure that they would be willing to pay for that."

"That's something that we've now taking forward, to look at the commercial opportunities – not us, but some of our commercial partners – are looking at taking that forward to see where it would go and what the business models might be, and actively engaged with the likes of BT, France Telecom and Orange France, those kinds of people."

The UK's adoption of eLoran was in part brought about by the high volume of traffic that passes through the Dover Strait and the North Sea shipping lanes. Elsewhere, South Korea is also looking into developing the system, but it is not just heavy coastal traffic that is prompting the move.

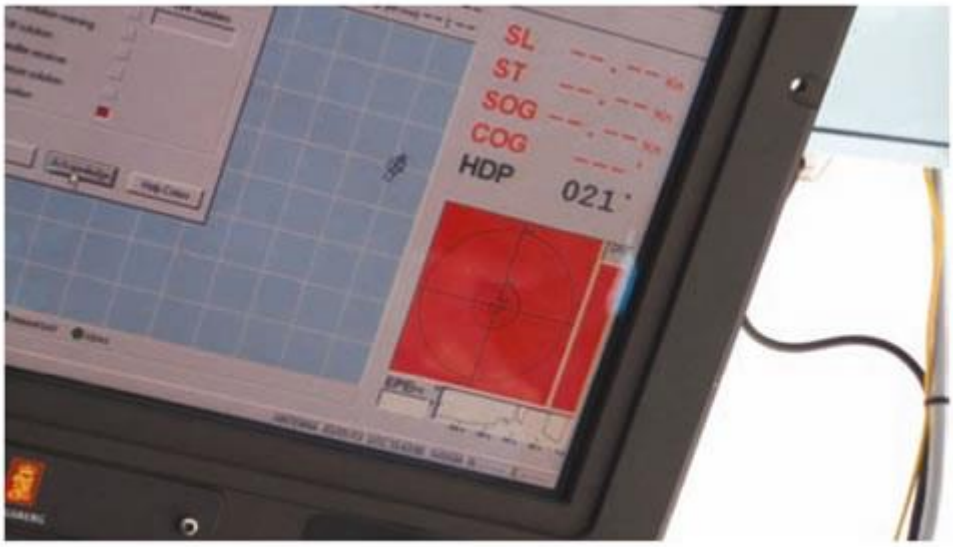
"A good case in point is South Korea, as they've got a particular problem with their neighbours to the north, who, allegedly, jam GPS regularly, and GSM as well, so telephone networks they're jamming at the same time. So (South) Korea are rolling out eLoran as well as a backup to GPS or other GNSS," said Mr Bransby.

"We've actually got an MOU, a Memorandum of Understanding, to engage with them so they can call upon our expertise, and they've done that a few times over the last six months or so actually. I set up the MOU, but there are people who are more technically adept than me. We've got a small team of people that run the technical side of things, and they've been helping develop their invitation to tender for the roll out of the eLoran service within Korea."

"They've selected a partner, but I don't think I can say who they are at the minute, as I'm not sure if they've released it. That (roll out of eLoran) is probably going to take place within the next year to 18 months, and we'll continue to work with them on a consultation basis."

e-Navigation

How eLoran integrates with the wider sphere of e-Navigation is something else the GLAs are working on. This involves monitoring the direction the IMO are moving in, and working in collaboration with the UK Maritime and Coastguard Agency (MCA).



Jamming of GNSS can wreak havoc on ships' systems. Photo: GLAs

"E-Navigation is really the big picture, which will provide services for shipping that will integrate electronic services on board and ashore. One of those services that we need to provide to ensure e-Navigation is resilient PNT (Positioning, Navigation and Timing). So I see eLoran as really a subset of the e-Navigation project. It's there to provide the resiliency that we need for not just positioning services, but all the other services that e-Navigation will deliver," said Mr Bransby.

"As the GLAs we have no direct input into IMO. The contact for the UK is the MCA, who are the official people who go along to the IMO and provide the input. But we do consult with the MCA, we do provide an input in a roundabout way. So we've tried to influence there, and the IMO of course have recognised that there is a requirement for resilient PNT, that there is a requirement for a ground-based terrestrial backup, without actually naming eLoran specifically."

"And of course, we believe it's the only one ready to go now, that we could actually provide eLoran services anywhere now, it's the political will that's sometimes lacking."

This brings up the point about rival PNT services. eLoran is up and running right now, but we asked what other technologies were being developed that might rival the system that the GLAs has put in place.

"None that could be rolled out now. Over the last few years we've been developing different sorts of ground-based or terrestrial-based backups, but they're probably not going to be around for about 10 years or so. Once you get past the technical development, it's the regulatory stuff as well that you need to worry about," said Mr Bransby.

"We've been looking at things like Ranging Mode from the IALA Beacon DGPS system for instance. We've been looking at absolute RADAR positioning, we've been looking at the hardening of GNSS (against jamming) and what that looks like."

"We've looked at all these, they're not going to be around for some time, and actually we developed a business case back in 2010 that said if we provided eLoran it would actually save money rather than cost money. We'd be able to shut some of our physical infrastructure i.e. lighthouses, because we're resiliency in electronic positioning rather than the mariner having to rely on physical aids, i.e. lights, as a backup to GPS, which is what he does now effectively."

As the IMO has already recognised that backup PNT is essential, it raises the possibility of eLoran becoming mandatory at some stage in the future. With e-Navigation expected to be implemented globally by 2019, mandatory carriage of eLoran is something the GLAs plan to work towards, but it is a long and arduous process that is likely to take many years.

"We've been fitting some of our receivers in this early stage to some early adopters of the technology who understand the vulnerabilities of GPS - and I think that's a problem in itself, explaining to people so that they understand the vulnerabilities of GPS – but some of the early adopters have seen that, and they're really keen to have receivers on their ships," said Mr Bransby.

"Regarding mandatory carriage, that's something that we would work towards, because it would be part of e-Navigation, depending on where and how e-Navigation goes, whether there's the uptake."

"IMO said we're going to develop it and deliver e-Navigation by 2019, so clearly that's not very far away, and we're going to need technology that's here and now, so whether it's mandated or not, we're still going to need resiliency. I would suggest that it would probably be better to mandate it, but that's a long and lengthy process. "
Whether or not eLoran becomes a candidate for mandatory carriage will depend to some degree on the success of the current deployment. The system now in place in the UK, stretching from Aberdeen to Dover, will be assessed on performance and take-up over the next couple of years.

In 2017 the UK Department of Transport will decide if eLoran is performing as intended, and if adoption of the technology has been sufficient. If these criteria are met, the Department is likely to approve rollout for the remainder of the UK and Ireland.

"We've got coverage now up the east coast of the UK and the Dover Strait, which is important. We saw these first seven reference stations as important places to get the coverage, especially at Dover," said Mr Bransby.

"It's obviously one of the busiest, if not the busiest, shipping lanes in the world, and the potential for disaster there is quite high, if GPS was jammed for instance. So we're now assessing the coverage and developing the system as far as the east coast is concerned, getting people to use the equipment on board the ships, getting the feedback from the users as to what they think and how we can develop this further."

"That's the short to early medium-term view. We've got to demonstrate by 2017 to the Department of Transport that people are using it, that there's consensus, certainly within Europe that it's a good idea and that people are willing to develop it further. Once that's done, there's a decision that will be made by the Department of Transport in that timeframe, so 2017, to see if we go further, and if that decision is positive then we will roll out eLoran service to the rest of the British Isles, so the rest of the UK and Ireland."

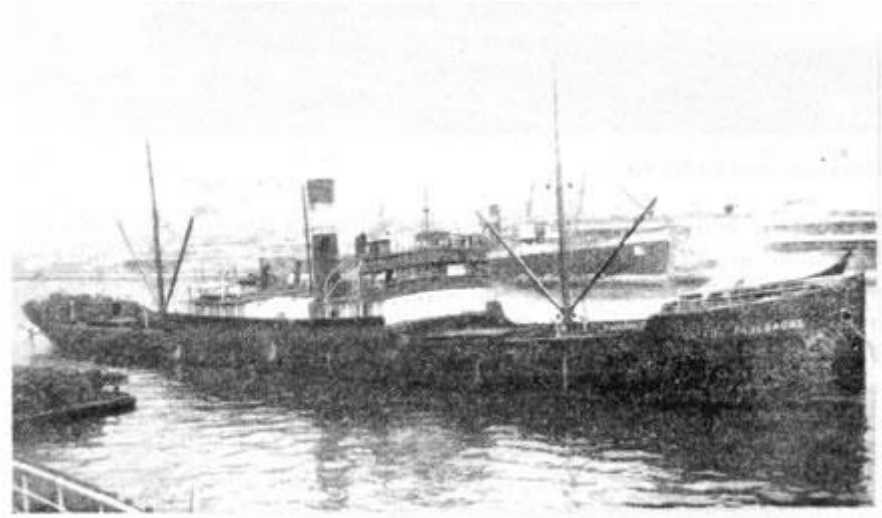
If the technology is also adopted by the US and South Korea it will have a foothold in three leading maritime nations, and three regions of heavy shipping traffic. This could give eLoran momentum and encourage others to build infrastructure and develop the system, perhaps one day leading to mandatory carriage under IMO law.
For now though, all eyes will be on the Dover Strait and the North Sea, as eLoran gets put through its paces in the world's busiest shipping lane.

DigitalShip

Inséré le 06/08/15 HISTORIEK HISTORIQUE Enlevé le 06/09/15

Het verlies van het S/S Sijurds Faulbaums

Het S/S Sigurds Faulbaums was een stoomschip van de Max Faulbaums S.S. Line, dat onder Letse vlag voer1. Dit schip bevond zich op het moment van de Russische invasie van de Baltische staten in 1939 te Riga. Om te vermijden dat het in Sovjet-handen zou vallen, werd het zo snel mogelijk met hout geladen, en naar Brugge gezonden. Eenmaal in België aangekomen, besliste de bemanning bij het schip te blijven, en de verdere ontwikkelingen af te wachten. Om in hun levensonderhoud te voorzien, zagen ze zich verplicht om machineonderdelen en andere inventarisstukken te verkopen.



Sigurds Faulbaums werd door de Belgische regering in beslag genomen in 1940.

Naar aanleiding van de Duitse invasie van de Lage Landen op 10 mei 1940, besliste de Belgische regering het schip in beslag te nemen, omdat de Max Faulbaums S.S. Line een Duitse mede-eigenaar had. Om deze 'oorlogsbuit' veilig te stellen besloot men hem te evacueren naar een Britse of Franse haven. Het Marinekorps, de in september 1939 opgerichte Belgische Krijgsmarine, werd met deze taak belast. Op 15 mei werden de machines geïnspecteerd, en in slechte staat bevonden. Daarop werden de riviersleper Baron de Maere en de zeesleepboot Graaf Visart van het Marinekorps naar Brugge gezonden om de Sigurds Faulbaums alsnog te kunnen evacueren. Aanvankelijk had men het plan opgevat om het schip langs de binnenwateren naar een Franse haven te slepen. De diepgang bleek echter te groot. Daarom werd beslist de evacuatie via de Noordzee uit te voeren.

Op 18 mei arriveerde de Sigurds Faulbaums te Zeebrugge. Luitenant Graré, de commandant van het tweede escadrille van het Marinekorps, kreeg het bevel om alle uitgaande vaartuigen zoveel mogelijk te beladen met lood, zink en rijst. Hiervoor mocht burgerlijke mankracht worden opgeëist. Er werd met afgevaardigden van het bedrijf La vieille Montagne overeengekomen dat hun lood, dat zich in de haven van Zeebrugge bevond, aan boord mocht worden genomen van het Letse schip. Om de Sigurds Faulbaums te bemannen werd de volledige bemanning van het Italiaanse koopvaardijschip Foscolo — dat na een Duitse luchtaanval voor Knokke tot zinken was gebracht — opgeëist, met toestemming van de Italiaanse consul. Luitenant Seron van het Marinekorps zou het bevel voeren. In de nacht van 19 op 20 mei werden er door Duitse vliegtuigen echter magnetische mijnen gelegd op de rede van Zeebrugge. De Italianen weigerden op grond van dit gevaar nog mee te werken. Daarom werd beslist een bemanning samen te stellen uit tien vrijwilligers van het Marinekorps2.

Op 20 mei raakte het plan van de Engelse admiraliteit bekend om de havens van Zeebrugge en Oostende tijdens de volgende nacht te blokkeren. De Sigurds Faulbaums moest om deze reden nog diezelfde dag worden weggesleept. Tegen de avond kwam echter het bericht dat de blokkade was uitgesteld.

Het laden van het schip ging door tot 22 mei. Zowel burgers als mariniers namen deel aan dit werk. Volgens de militaire verslagen werd ongeveer duizend ton lood aan boord

genomen. Rond vier uur `s middags kreeg luitenant Seron bevel het laden stop te zetten, en de Sigurds Faulbaums in gereedheid te brengen om Zeebrugge te verlaten. Het schip moest door de Graaf Visart en de Baron de Maere naar de Downs (dit is een vaargeul tussen de 'Goodwin Sands' en de kust van Engeland) worden gesleept, alwaar het moest worden overgedragen aan de Engelse autoriteiten, tegen een ontvangstbewijs. Om elf uur `s avonds vertrok het konvooi richting Engeland. Reeds ter hoogte van de havenpier van Zeebrugge werd de schroef van de Baron de Maere geblokkeerd door onhandige manoeuvres met de sleepkabel. Luitenant Seron besliste de reis toch verder te zetten. De Baron de Maere werd op sleeptouw genomen door de Sigurds Faulbaums, die zelf werd voortgetrokken door de Graaf Visart.
De volgende dag (23 mei 1940) werd de bemanning van de Sigurds Faulbaums rond 12 u 10 plots opgeschrikt door een luide explosie aan het achterschip. Een enorme geiser, bestaande uit water, stukken hout en lood, vloog in de lucht. Het achterschip verdween nagenoeg onmiddellijk in de golven. Het werd al snel duidelijk dat de Sigurds Faulbaums aan het zinken was. Nagenoeg de gehele bemanning wist zich met behulp van een reddingsboot en een vlot in veiligheid te brengen. Luitenant Seron werd echter meegezogen in het tweede ruim, maar kon zich uiteindelijk toch nog redden door twee wrakstukken als vlot te gebruiken.


De zeesleepboot Graaf Visart

Ondertussen was de bemanning van de Baron de Maere er in geslaagd de sleepkabel van het zinkende schip los te maken. Ook zij verlieten hun geblokkeerd vaartuig door middel van een reddingssloep. De Graaf Visart wist zich eveneens te bevrijden van de zinkende Sigurds Faulbaums en begon onmiddellijk hulp te bieden aan de drenkelingen. Alle slachtoffers konden aan boord van deze sleepboot worden gehesen. Een half uur later werd de Baron de Maere op sleeptouw genomen, en de reis richting Downs verdergezet. Luitenant Seron en de bemanningsleden van het gezonken vrachtschip werden in het dagorder van het Marinekorps voor hun moed geprezen: "Le lieutenant Seron et 10 volontaires ont montré le plus grand courage en s'embarquant à bord du 'Sigurds Faulbaums', bateau de 5600 tonnes qu'il s'agissait de remorquer dans des conditions très difficiles de Zeebrugge en Angleterre. A hauteur du Westhinder, le 23 mai à 12h10 le bateau coula et tout l'équipage fut heureusement sauvé. Je suis heureux de pouvoir féliciter le lieutenant Seron et son équipage".

Aanvankelijk was men ervan overtuigd dat de Sigurds Faulbaums op een magnetische mijn was gelopen. Onderzoek in de logboeken van de Duitse onderzeeboten tijdens de Tweede Wereldoorlog heeft echter aangetoond dat een torpedo van de 'Type IIB U-boot' U9 verantwoordelijk was voor het verlies van het vrachtschip. Deze logboeknotities geven ook een aantal gegevens die tegenstrijdig zijn met de rapporten van het Marinekorps3. Twee

torpedo's werden afgevuurd, waarvan er slechts één doel trof. De bevelhebber van de U9 — Wolfgang Lüth — was er trouwens van overtuigd dat hij een belangrijk militair transport-schip tot zinken had gebracht. Hij interpreteerde de aanwezigheid van twee sleepboten rond een 'neutrale' vrachtvaarder en het feit dat Belgische mariniers aan boord waren verkeerdelijk als een bewijs voor het (militair) belang van de lading.

Na de Tweede Wereldoorlog werden er verscheidene bergingspogingen ondernomen om de waardevolle lading van de Sigurds Faulbaums te recuperen. Men ondervond echter problemen om het wrak te lokaliseren. Momenteel is de Sigurds Faulbaums weer erg actueel, omdat ze misschien zal moeten worden gelicht in het kader van de verdieping van de vaargeul voor de Belgische kust. In tegenstelling tot wat onlangs in de pers werd gemeld (artikel in Het Volk van 10 december 1998), had het schip echter geen deel van de goudvoorraad van de Nationale Bank aan boord.

Nota:

1 Dit schip, met een tonnenmaat van 3256 brutoton, was in 1913 gebouwd bij J. Blumer & C° in Sunderland (bouwnummer 216) onder de naam Dingle Bank voor rekening van Dingle Shipping C° Ltd. uit Liverpool. Nadien kwam het in Franse handen onder de naam Anglet. Na de Eerste Wereldoorlog voerde het weer de Engelse vlag, als Nordeflinge. Pas in 1937 werd het schip tot Sigurds Faulbaums herdoopt.

2 De bemanning was als volgt samengesteld: luitenant Seron als commandant, tweede meesters Denis en Bronée, kwartiermeesters Cools, Francolet en Timmermans, matrozen Gombert, Pepinghouse, Corneil en Verbruggen.

3 Volgens deze Duitse bron zou het schip pas om 12u54 tot zinken gebracht zijn, en dit op 51°21'NB en 2°35'0L. Het zou ook 21 minuten (en geen twee minuten) geduurd hebben vooraleer het vrachtschip onder de golven was verdwenen.

Bronvermelding C.H.D. Box 1. FN.
Kriegstagebuch van de U9, op microfilm.
LECONTE, L., Les ancêtres de notre Force Navale, Bruxelles, 1952.
ROHWER, J., Axis submarine successen 1939-1945, Cambridge, 1983.
S.S. Sigurds Faulbaums, M.S. Nippon, in : Wandelaer et sur l'eau, 315 (1954), blz. 278-279.
SCARCERIAUX, P., La surprenante aventure du vapeur de prise 'Sigurds Faulbaums', in: Wandelaer et sur l'eau, 377 (1956), blz. 163-167.

Court Finds Payment Of Charter Hire Is Not A Condition: Astra Not Followed

In a decision handed down on 18 March 2015, a Commercial Court judge has declined to follow Flaux J's decision in The Astra and has concluded that payment of hire by the Charterers was not a condition of the charterparty. Mr Justice Popplewell reached his

decision following a careful consideration of the authorities on this issue and, in particular, The Astra [2013] EWHC 865 (Comm).The Court also considered issues concerning repudiatory breach, the validity of the charterparty guarantees and assessment of damages for repudiatory breach of charter. These issues are not discussed in this alert, but a more detailed article on the judgment will appear in our Spring 2015 Shipping E-Brief.

Brief background facts By three charters dated 5 March 2010 on amended NYPE 1993 forms, three supramax bulk carriers were let on long term time charter to Grand China Shipping (Hong Kong) Co Ltd. The charters provided for performance guarantees to be issued by the Defendant ("GCL") which is the parent company of the Charterers. By April 2011, the Charterers had fallen behind with their hire payments under the charters and, in September 2011, the vessels were withdrawn from service and the charters were terminated. The Owners claimed under the guarantees in respect of the loss of the balance of the charters.

The decision in The Astra Mr Justice Flaux reviewed in detail the various previous cases which, over the last 100 years or so, have touched upon the question of whether a failure to pay hire amounts to a breach of condition as opposed to a breach of an innominate term (a breach of an innominate contractual term only entitles an innocent party to terminate the contract where the breach is sufficiently serious, whereas a breach of condition entitles the innocent party to terminate a contract regardless of the severity of the breach). Having reviewed the authorities, Mr Justice Flaux reached the conclusion that payment of hire is a condition of the contract and therefore that the failure to pay a single hire payment entitled the Owners to withdraw the vessel and claim loss of profit for the remaining charter period.

The Commercial Court decision Mr Justice Popplewell also reached his conclusion following a detailed analysis of the authorities and, in particular, following a careful analysis of the principles set out in The Astra. Popplewell J considered and dismissed each of the reasons given by Flaux J in The Astra for finding that payment of hire was a condition of the contract. In summary:

1.Popplewell J disagreed with Flaux J that the right to terminate under the withdrawal clause for any failure to make punctual payment meant that any non-payment was sufficiently serious to justify termination and therefore that a failure to pay hire promptly was intended to be a condition. The withdrawal clause in this case provided only for a liberty to withdraw the vessel from service, in other words it did no more than give the Owners an option to cancel. Without express wording to that effect, the withdrawal clause did not make payment of hire a condition.

2.If there were no withdrawal clause in the charters and so no express right to terminate, payment of hire would not be treated as a condition of the charter. It could not have been intended that any breach of the hire payment obligation, no matter how serious or trivial, would have the same consequences and allow the Owners to terminate a long-term charter even for a trivial breach.

3.In commercial contracts, the time for payment is not generally "of the essence" i.e. a condition, unless the contract expressly says so. In a time charter context, there is no good reason to treat the payment of hire as a condition (unless the charter says so expressly) because an owner may exercise his contractual right to terminate the charter and put an end to future performance (and the future expense of operating the vessel for the benefit of the charterer). In Popplewell J's view, once an owner no longer has to provide a charterer with the services of the master and crew, then his interest in the prompt and punctual payment of hire disappears.

4.The need for commercial certainty did not mean that payment of charter hire should be treated as a condition. Commercial certainty can be achieved by the withdrawal clause

which offers an option to cancel, without conferring on owners an unmerited right to damages (such as is conferred by a right to repudiate a contract for breach of a condition). The desirability of commercial certainty must be counterbalanced with the need not to impose liability for a trivial breach in undeserving cases.Having gone through his careful and lengthy analysis, Popplewell J found himself unable to follow the decision of Flaux J in The Astra and concluded that payment of hire by the Charterers under the three charters was not a condition.

Comment It may come as little surprise that the decision in The Astra has not been followed and should not be treated as settling the law as to whether a payment of hire under a charterparty is a condition, any breach of which would justify a claim for repudiatory breach. Whether there is an appeal on this issue remains to be seen. However, for now, at least, this decision is likely to go some way to restoring the previously accepted view that the obligation to pay hire under a time charter as it falls due is not a condition such that, if an owner wants to recover its future losses following a termination, it must seek to bring the charter to an end for repudiatory breach of contract and, in doing so, demonstrate that charterers' defaults are sufficiently serious as to deprive the owners of substantially the whole benefit of the charter.

Source: INCE & Co

Inséré le 10/08/15 BOEKEN BOOKS LIVRES Enlevé le 10/09/15

"Danish Liners Around the World"

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

'Danish Liners Around the World', a publication by Nautilus Forlag and written by Bruce Peter, tells the remarkable story of Danish shipping companies' engagement in international liner shipping. Maersk Line is the world's biggest liner company, operating many of the largest and most technologically sophisticated container ships. Yet, in the mid-nineteenth century, the Danish merchant fleet lagged far behind those of Europe's great powers. Through a combination of business acumen and technical innovation in the twentieth century, Danish shipping lines gradually expanded, gaining market share by undercutting less efficient rivals. In this book, the histories of Denmark's major liner companies – DFDS, EAC, Maersk and Torm – are recorded and successful innovations, particularly the development by Burmeister & Wain of reliably efficient marine diesel engines, are documented. In recent time, Danish shipping companies – particularly Maersk Line – have played major roles in bringing about the phenomenon of 'globalisation' as the switch from general cargo to shipping containers has enabled goods to be moved for long distances securely and at unprecedentedly low cost. Consequently, value chains are nowadays spread across oceans and continents. Indeed, the modern-day super-container ship, exemplified by Maersk's new Triple E class, symbolizes our contemporary world of mass production, distribution and consumerism.

Bruce Peter is Reader in Design History at The Glasgow School of Art. He is half-Danish, a graduate of The Royal College of Art and the University of Glasgow. Having enjoyed travelling on ships across the North Sea from a young age, the design history of modern merchant shipping became one of his research specialities. During the past decade, he has written a number of books and participated in the making of television programmes about

various aspects of the development of ship design and operation since the advent of steam propulsion. 'Danish Liners Around the World' (ISBN 978-87-90924-54-6), a 304 page A4-hardback, is published by Nautilus Forlag, Anker Engelunds Vej 1, DK-2800 Lynby, Denmark. Price: 399 Danish Krone plus P&P. More info on www.nautilusforlag.dk.

Inséré le 12/08/15 NIEUWS NOUVELLES Enlevé le 12/09/15

Malta: The Wreck Removal Convention

The removal of wrecks is not the easiest of tasks and it has proven to be quite costly. Undoubtedly, the financial costs dealing with wrecks have been on the increase over the past ten years. Wreck Removal mainly involves the removal of dangerous wrecks which have some value or none at all. As of the 14th of April 2015, Malta and the other sixteen signatory states shall be governed by the Nairobi International Convention on the Removal of Wrecks, 2007.

Malta-shipping

The Convention will certainly have an impact on Malta's maritime activities, since in relation to the Maltese Territorial waters the Convention intends to bar incoming or outgoing ships of 300 gross tonnes or more which are not in possession of a valid insurance certificate or other valid financial security Across the board, the Convention establishes a legal framework by providing a set of systematic international rules which are intended to ensure an expeditious and an efficient way of removing wrecks. Additionally, the Convention seeks to invoke an obligation on ship owners to compulsorily insure or obtain financial security in the form of a guarantee. As a result the signatories to the Convention would be able to reclaim the costs incurred with respect to the removal of wrecks. Another prominent feature of the Convention is that an individual in charge of any ship is obliged to report an accident which occurs in the Territorial Waters of Malta covered by the Convention to the Authority for Transport in Malta. The individual may be the owner of a ship, a manager, or a bare boat charterer who has taken on the responsibility for the operation of the ship. Once a ship is wrecked, the Convention bestows upon a Signatory State the right to remove the ship which may ultimately pose a threat to the marine and costal environment, the safety of individuals, and with regards to any goods, merchandise and other property at sea. Consequently, the Authority may issue a "wreck removal notice" as it may deem to be fit and proper. This notice would order the registered owner to fulfil the obligations laid down by the Convention.

The Procedure

From the date that the Convention has come into force, a number of requisites must now be adhered to before the entry or exit of a ship from Maltese ports and waters. The necessary documentation such as the insurance certificate, the financial security and any other ancillary documents must be presented to the Maltese Transport Authority. Generally these documents are submitted to the Authority through PORTNET, which is the Authority's designated system for entry and exit notifications. Such notification must be handed over in line with the time spans established by the Transport Authority. The ship will not be allowed to enter Malta's territorial waters if the insurance certificate or the financial security are not submitted accordingly or if the documents are not in line with the Transport Authority's standards. The Authority for Transport in Malta will only allow a ship to enter or leave Malta upon receiving the necessary and suitable documentation. Once the documentation is in place the Registrar General of Shipping and Seamen within the

Merchant Shipping Directorate will issue a certificate upon the verification of a valid blue card which is issued by the insurers of the ship owners. The Registrar General is responsible for laying down the conditions of issue and the legitimacy of these certificates.It is noteworthy to point out that ships sailing through Malta's territorial waters must ensure that they always carry a valid insurance certificate or other valid financial security documentation, since inspections may be carried out from time to time. If it results that a ship is not carrying the necessary documentation the ship may either be requested to leave Malta's territorial waters or it might be apprehended. Additionally, when a ship receives an order to leave the territorial waters, the particular ship will not be allowed to enter unless a positive notification is received from the authority upon the submission of the necessary documents. Essentially, the registered owner of a ship is obliged to make sure that the ship is in line with the regulations provided for by the Authority for Transport in Malta and the corresponding laws and regulations. If the aforesaid rules are not respected, such person shall be held liable. CSB Advocates offer their clients a unique assessment based on their individual inquiries relating to wreck removal and other shipping aspects and procedures. Additionally, our international reach means that we have the knowledge to cater for any possible inquiry which might arise within Malta's territorial waters. Our legal team routinely assist and guide clients with all the necessary documentation submissions to the local regulatory authorities in the swiftest way possible.

Source: CSB Advocates

Inséré le 14/08/15 DOSSIER Enlevé le 14/09/15

STS transfers- a risky business

The number of STS transfers has increased dramatically over the last decade, particularly in UK waters where there has been a boom in operations taking place off Southwold, Suffolk.*

STS transfers are, however, more risky than port-based operations. The need to co-ordinate two moving vessels requires specialist assistance and, because such transfers usually take place at sea, they can be more susceptible to difficulties and delay.

Despite the increased frequency, the law in this area remains relatively undeveloped. Although standard clauses do exist, the few reported decisions on STS transfers make it clear that a tanker operator needs to give careful thought to the specific operations envisaged under a charterparty when negotiating such clauses.

Charterparties often require the owners to approve the second vessel in advance of an STS operation. The wording of such provisions varies, but a clause of this type was considered by the Court of Appeal in The Falkonera last year, in relation to a VLCC.

The charterers had the option of transferring cargo to "any other vessel including, but not limited to, an ocean-going vessel" and wanted to conduct an operation with another VLCC. The charterparty also provided that:

"(i) if charterers require a ship-to-ship transfer operation or lightening... then all tankers and/or lightering barges to be used in the transhipment/lightening shall be subject to prior approval of owners, which not to be unreasonably withheld....

(ii) all ship-to-ship transfer operations shall be conducted in accordance with the recommendations set out in the latest edition of the ICS/OCIMF ship-to-ship transfer guide (petroleum)."

The charterers asked the owners to approve the transfer to another VLCC. The owners refused to permit the transfer, citing safety concerns because the vessels were the same size and, also, because such a transfer was not envisaged by the version of the ICS/OCIMF Guide current at that time.

The Court of Appeal decided that the owners had been unreasonable in refusing the charterers' request and found that, because the charterparty provided a clear right to transfer to another ocean-going vessel, to refuse a request reasonably there would need to have been "some characteristic of the [second] vessel which would mean that the proposed operation could not be carried out safely."

Even though a VLCC-to-VLCC transfer required more planning than a normal STS transfer, in this instance there had been time for such planning and there was nothing inherently unsafe in a VLCC-to-VLCC transfer, if such planning had been undertaken.

The Falkonera judgment makes it clear that, if an owner wants an unfettered right to vet transferring or receiving vessels, then robust wording will be needed. Such wording would need to give the owner the right to refuse the other vessel based on its own discretion. Charterers should be wary of such amendments, however, because a broadly drafted right to refuse an STS transfer (or to delay while deciding whether to refuse) could cause a charterer to incur substantial costs, especially where there are two vessels involved and often an ancillary web of sales contracts.

Double banking

Many timecharters contain a 'double banking' clause, which seeks to place the risks associated with STS transfers onto the charterer and, frequently, also provide an indemnity from the charterers for any damage that might result. The wording of such clauses varies, with some applying only to cargo operations (such as the current BIMCO "Ship to Ship Transfer Clause") while others extend to off-shore bunkering operations as well.

An earlier BIMCO clause was considered in London Arbitration 2/99 in relation to lightering a bulk carrier. The Arbitration concerned damage by stevedores at three locations in the Pipavav Roads, India. The lightering operations took place shortly before the monsoon, amidst "a prevailing swell and tidal streams" with "numerous interruptions to loading due to bad weather."

There was also some confusion about the correct location for loading, and it was found that the Master had moored in the first location against the charterers' advice and without the benefit of local charts (referred to in the voyage instructions). The second and third locations were specified by charterers, however, and the vessel's hull sustained damage in all three locations.

The double banking clause provided that the charterers would "indemnify the owners for any costs, damage and liabilities resulting from such operations". The charterers were also required to re-deliver the vessel in "like good order and condition as on her delivery, but with ordinary wear and tear excepted."

The owners claimed for the cost of repairing the damage to the vessel's hull, which they said had been caused by the charterers ordering the vessel to go to a place which was "adverse, hazardous and unsafe for loading heavy cargoes using grabs and barges with inadequate fendering". The charterers claimed that the damage had been caused by the owners' own actions and argued that the Master had not tried to suspend the operation, which he could "if in his reasonable opinion it [was] not safe."

The Tribunal decided that, because the owners had specifically agreed to load at a named anchorage in the weeks before the onset of the monsoon, they were deemed to have reasonably anticipated the conditions. Also, because the vessel had only been fixed the day before the operation there was not time to purchase local charts and "the Master was

entitled to anchor where he did, and had acted reasonably in anchoring the vessel in those places."

When negotiating a charterparty in which STS transfer is envisaged, it is important that careful thought is given as to how liability for such an operation is apportioned.

Nevertheless, the exception for "ordinary wear and tear" had "to be considered in the light of the trade for which both parties had contracted". On this basis, the owners were entitled to an indemnity for the damage suffered in the second and third locations (to which the vessel had been specifically directed by the charterers) but not for the damage suffered in the first. This could have been avoided if the Master had followed the charterers' advice and such damage was also "to be expected when loading off-shore on the West Coast of India from shore lighters."

London Arbitration 2/99 makes it clear that an owner cannot guarantee being able to rely on a double banking clause indemnity for all consequences of an STS operation. The "ordinary wear and tear" that might arise from an STS in heavy weather in an unsheltered location could be substantial. In addition, the fact that damage arising from owners' own actions might not be covered, even where those actions were apparently reasonable and not negligent, could have a significant impact on the extent of the indemnity. This is particularly important where, during an STS operation, decisions might have to be made quickly and without time to liaise with the charterers.

A prudent owner will want to obtain an indemnity from a charterer that extends to all loss and damage incurred in an STS operation, whether "ordinary wear and tear" or not. In addition an owner will want to ensure that all actions that a Master might take are covered by the indemnity. A charterer should, however, be very careful about the extent of any amendments here because some P&I Clubs are known not to cover losses arising from indemnities that cover Master's negligence during STS operations.

When a vessel arrives to perform a loading or discharging operation it tenders a notice of readiness (NOR), which in turn starts time running under the relevant voyage charter (and sale contract). To tender a valid NOR, the vessel needs to be legally (and physically) ready to undertake the operation in question.

Approval issues

Issues have arisen regarding the need for MCA approval before undertaking an STS operation off Southwold. Although local STS operators are known to obtain such approval as a matter of course, the Merchant Shipping (Ship-to-Ship Transfers) Regulations 2010 only apply within "United Kingdom waters", where approval from the MCA is required before an STS operation can take place. Outside territorial waters (where many transfers

take place) the requirements are different and "notification", along with a ship transfer operations plan approved by the vessel's flag state, are required instead of a "permit".

This creates uncertainty where operations often take place under way and can, sometimes, start inside territorial waters but finish outside. Disputes have arisen over whether a vessel can be legally ready to start an operation (and so capable of tendering a valid NOR) before such approval, or notification, has been arranged. Local operators may want to obtain "approval" even for operations taking place in international waters and, even where such approval is actually needed, there can be delays while it is obtained.

These are issues that can be managed using an appropriate rider clause, which clarifies the situation and apportions liability for any delay while approval is obtained, or notification given. An owner will, in particular, want to ensure there are no questions over when NOR can be validly tendered to avoid disputes later over when time actually started running for the purposes of demurrage.

As these three issues make clear, when negotiating a charterparty in which STS transfer is envisaged it is important that careful thought is given to how liability for such an operation is apportioned.

Although clarity is, of course, the main aim for both parties, an owner may want to vet a possible second vessel if they have any concerns (of whatever nature) and to ensure the Master can proceed without having to worry about the extent of the indemnity in the charterparty.

An owner will also want clarity about when an NOR can be tendered and perhaps to try and make any delays in obtaining approval for STS transfer something for the charterer's account. These are all things which are better clarified within appropriate rider clauses, rather than being decided after the event in costly arbitration or litigation.

*This article was written by Sean Gibbons and Joe Gosden. They are Partner and Associate, respectively, within the Marine and International Trade team at law firm Stephenson Harwood. They both regularly act for owners, charterers, oil majors and commodities trading houses in litigation, arbitration and non-contentious matters.

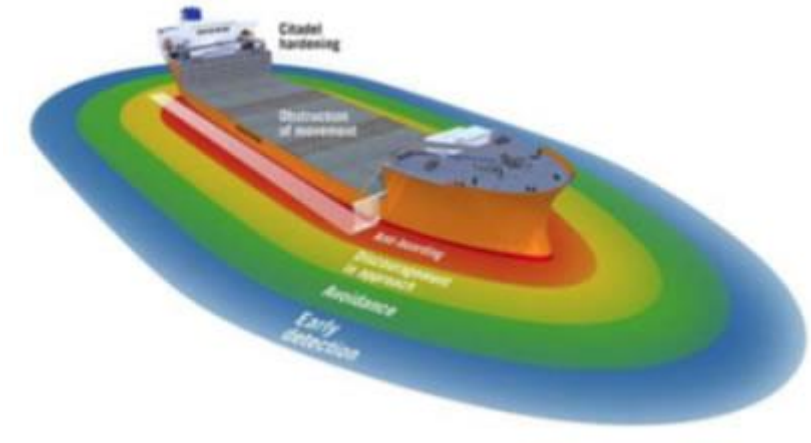
TankerOperators

Inséré le 18/08/15 NIEUWS NOUVELLES Enlevé le 18/09/15

Maritime Security Alliance: increased interest in non-lethal self-protection measures

By : Michiel Hijmans - Commodore (Navy) ret.

The Maritime Security Alliance (MSA) is an international cooperation of maritime product and strategy developers from the Netherlands, Denmark, UK and Germany. The goal is to perform research on the different non-lethal and often passive self-protection measures, strategies and services available to be used for sustainable protection of merchant and fishing vessels.



Dutch politicians are currently discussing the legality and use of private maritime armed security guards for Dutch ship-owners, meanwhile Germany ship-owners seem to have moved away from armed guards. This development is interesting because the German government does allows restricted use of private maritime armed security guards to protect its merchant vessels. In the previous months representatives of the MSA have visited several German ship-owners, who indicate that they are not allowing the use of armed guard services in more and more regions such as: West-Africa and Southeast Asia where local regulations do not allow the protection by armed guards. Chartering companies indicate that the usage of armed guards is not covered and therefore not allowed at all, leaving ship-owners once more with their duty of care for their maritime employees and protection of their vessels. Research and development by the MSA shows a steep increase of self-protection measures in the last few years. The constant search for products and services suitable for the maritime industry resulted in several new maritime self-protection strategies, which contribute to risk reduction for crew and vessel transits by enhanced safety and emergency protection policies by ship-owners decision makers. Although ship-owners and chartering parties are open for these new strategies, the initial investment for sustainable protection is significant. The investment pays back after several transits through high risk areas. On the other hand the option of sustainable non-lethal self-protection allows legal protection for all regions in the world, without local or coastal restrictions. The cost of products and services is reducing due to increased competition between producers of self-protection equipment and wholesale pricing for components of multiple vessels and companies simultaneously.

For more information contact: www.maritimesecurityalliance.com

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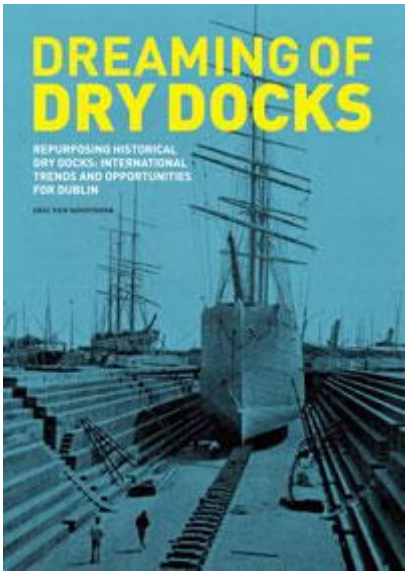
Internationale studie over herbestemming van historische droogdokken



Eric Van Hooydonk maakte in opdracht van het havenbestuur van Dublin een internationale vergelijkende studie over de herbestemming van historische drookdokken. Dublin Port Company overweegt een oud, enkele jaren geleden dichtgegooid droogdok uit 1860 terug te openen in het raam van een beleid voor het beheer van de zachte waarden van de haven en de ontsluiting van interessant erfgoed voor een breed publiek. De haven wenste te weten welke nieuwe functies aan oude droogdokken kunnen worden gegeven. De auteur schetst de geschiedenis van het droogdok in het algemeen, gaat in op de nieuwe toekomst die droogdokken hebben gekregen in 30 havensteden in verschillende continenten en besluit met aanbevelingen voor Dublin. Een in kleur gedrukte en in metalen ringen ingebonden versie van deze Engelstalige en rijkelijk geïllustreerde studie van 100 pagina's is bij Watererfgoed Vlaanderen verkrijgbaar voor 30 EUR plus verzendkosten. Info via secr@watererfgoed.be.

Inséré le 20/08/15 DOSSIER Enlevé le 20/09/15

Traditional crude trade routes changing

Long-established crude oil trade routes are being shaken up on the back of changes in geographic supply and demand, primarily the US.

Many types of crude oil are produced around the world. Depending on the requirements of a particular refinery, a blend of heavy and light crudes is processed to manufacture a variety of petroleum products, McQuilling Services said in a report.

After peaking at 9.6 mill barrels per day (b/d) in 1970, US crude oil production steadily declined until it reached a low of 4.94 mill b/d in 2008. During the same period, US crude oil imports increased sharply to bridge the gap of decreasing domestic supply and increasing demand.

In response to declining North American production and anticipation of rising heavy grade imports from the Caribbean, Latin America and Saudi Arabia, many US refineries were reconfigured to process heavy crude in the 1990's.

At the turn of the 21st century, rising global fuel costs led to advancements in crude oil extraction technologies, setting the stage for the development of the North American unconventional crude oil industry. Since 2008, supply from Canadian oil sands and US shale reserves have grown by 80%.

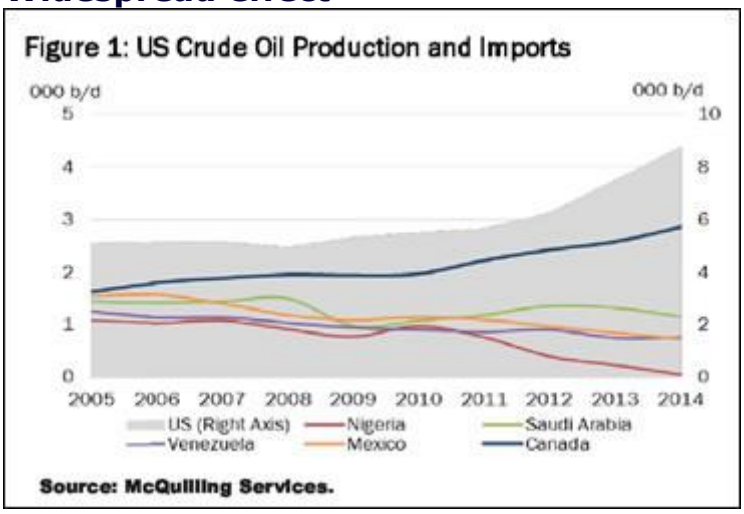
The most significant aspect of the North American unconventional crude oil renaissance is the variety of crudes produced. For example, the Canadian oil sands supply heavy crudes and US shale reserves supply light crudes. Because of the assortment of crudes available from unconventional areas, increased North American production has displaced a wide range of foreign crudes, which has led to the restructuring of long-established trade routes.

Canadian exports to the US have had a considerable impact on the global supply chain and McQuilling forecast that this phenomenon will escalate through 2019. Canada is a net exporter of crude oil and as productivity from its oil sands increases, Canadian exports to the US will also expand.

Due to intermodal transportation constraints, Canadian crudes have not reached coastal ports to load tankers for more distant export markets in any significant volumes. The US remains the main beneficiary of Canada's growing export trade, absorbing around 97% of its international crude sales.

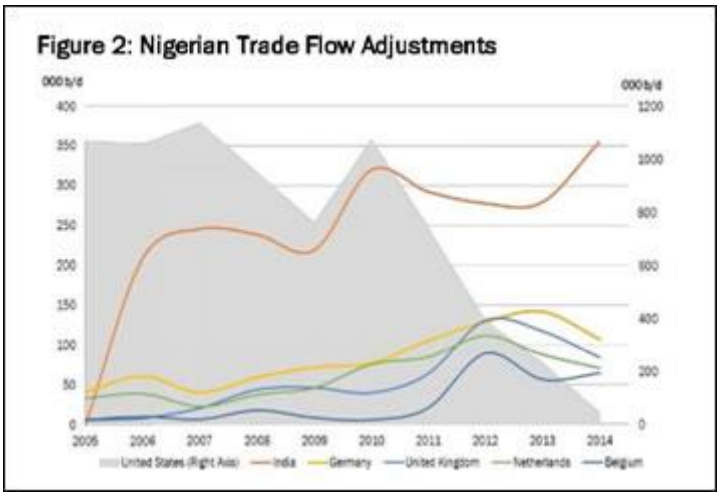
Since nearly all US shale production is light, heavy Canadian crudes are in high demand from US refiners. Gulf Coast refineries use a blend of light and heavy crudes to optimise the crude types and increase operating efficiency.

Widespread effect



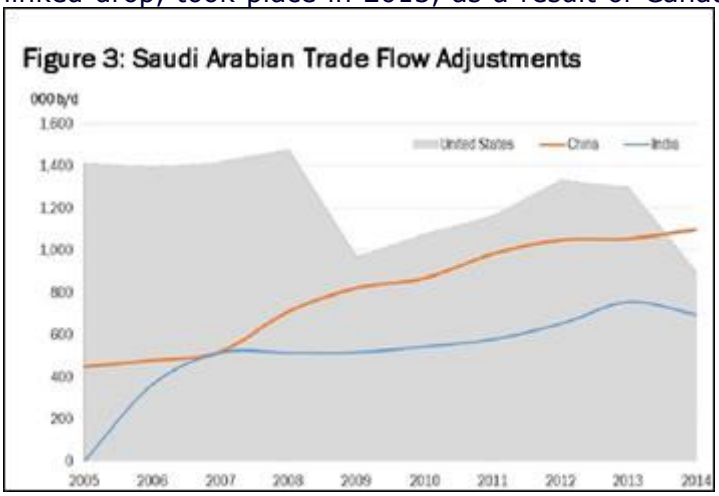
Considering the wide range of crude grades available from unconventional North American producers, commercialising the oil sands and shale industries has had widespread effects on global trade flows. Since 2005, exports of heavy Canadian crudes to the US increased by 1.5 mill b/d, while the US simultaneously increased light crude production by 4 mill b/d. The effect of rising North American heavy and light crude oil production on other trades is highlighted in Figure 1.

By 2014, US imports from Iraq, Mexico, Nigeria, Saudi Arabia and Venezuela declined by 2.7 mill b/d from 2005 levels. Collectively, about 1.5 mill b/d of heavy grade exports from Mexico, Saudi Arabia and Venezuela to the US were displaced by heavy grade Canadian crudes, while the light grade Nigerian trade to the US was almost completely decimated by US tight oil production. As North American imports declined, the tonnage was absorbed into alternative markets. Figure 2 illustrates the trade flow shift that has taken place over the past decade, the consultancy explained.



In response to falling US imports, Nigerian exports have primarily been diverted to the Indian sub-continent and Europe. India's economy is expected to grow by about 6.5% year-over-year through 2019. By 2019, India's crude demand is forecast to grow by 40% over 2010 levels. However, Indian crude production is only foreseen to increase by 12% during the same period, suggesting a supply deficit that will drive greater crude imports.

Saudi Arabian exports to the US have declined by roughly 20% since 2005. The first significant decline in Saudi Arabian exports to the US, besides the 2008/2009 recession linked drop, took place in 2013, as a result of Canadian oil sands production growth. By 2014, Saudi Arabian exports to the US had decreased by 20% over 2005 levels. Figure 3 displays the trade flow shift caused by decreased Saudi Arabian exports to the US.



Growing demand from India and China has soaked up the lion's share of displaced Saudi cargoes.

As Canadian oil sands production expands in coming years, Saudi Arabian heavy grade crudes will continue to exit the North American markets and into alternative growing markets, such as China and India. By 2019, we expect that an additional 500,000 b/d of Saudi Arabian exports to the US will be displaced by Canadian oil sands production, McQuilling said.

"It is our view that economic growth in China and India will generate enough demand to take in the displaced Saudi production, leading to increasing tanker demand on the AG/East trades," the consultancy said.

Trade flow rebalancing will be a central theme in tanker markets for the next five years. To better understand the changes in global trade flows and the impact on tankers, McQuilling Services has created a proprietary vessel deployment model.

This model may help shipowners optimise fleet deployments by providing the most profitable triangulated trade routes across eight vessel classes. This will be launched in the upcoming '2015-2019 Tanker Market Outlook', which is due to be released this month.

TO

Over the worst? We might find out this week

The shipping market has a spring in its step, even as summer draws to a close. There is it seems, confidence that finally, we are emerging into the light and the beginnings of a sustained recovery. In this sense, London InternationalShipping Week, which will be in full swing by the time this piece is published, will be a useful thermometer with which to take the patient's temperature.

We might not get a full appraisal and certainly the industry will need to be kept under observation, but there should be plenty of discussion of whether the worst is over and how quickly earnings and operations can get back to normal.

As a participant this week I shall certainly be looking for signs of returning confidence and full recovery but Jonah that I am, I'm not completely convinced we are out of the woods yet.

The problem that shipping has at the moment is equating activity with achievement. If we all just look busy, the feeling goes, we can work our way out of this. And just when you're least expecting it, you'll pop your head up and everything will be rosy again. This scenario is very unlikely to take place, at least in the short term.

For one thing, shipyard capacity is still far, far, too high and the very short memories of those who cashed in at the flood are still strong enough to have them believe that there is money to be made by hanging tight and waiting for better times. In one sense this might be true, if some of the ships lashed together as the yard was being built around them really are as short-lived as some people predict.

It would be a good thing if the global fleet was renewed and its average age reduced so significantly that one source of casualty risk is reduced, or even removed. Unfortunately, recent casualties tend to suggest that it is not as simple as that.

Singling out the shipyards seems a little unfair, after all it is the owners that keep on coming back for more. But the fact that some are prepared to continue to cut prices in order to attract business undermines the entire industry and creates the worst possible two-tier market.

Owners are hardly in the best of health either, an observation based on the eagerness with which they are flocking to new sources of finance – now that the banks have decided they will mostly pass – and their willingness to order against analysis of economic recovery which is far from proven. The change in complexion of the Chinese economy, even given that country's extraordinary ability to manage its movements up and down is in stark contrast to the rout being effected on the Indian currency (and others) as a result merely of expectations that the US Fed will taper its QE programme. Micro-economic conditions elsewhere remain fragile to say the least. To take one example, London property prices (and hotel room rates) are high but the country's recovery seems predicated on very doubtful fundamentals.

Analysts have forecast the end of the commodities boom since the start of the year if not longer and the reversal of fortune in Australia's economy is testament to that. It seems self-evident that an extractive industry is unsustainable in the very long term but when the demand profile changes, the supply side has to adjust. Look at the tanker market and shale gas for further evidence of that.

The major shipping markets remain volatile and treacherous, even despite the summer's dry bulk upturn and some semblance of order returning to tanker and containership

markets. In the first of these, simply look how far out the forward curve has pushed a recovery – with Cal14 Cape levels below spot values last week.

At the same time costs, primarily as a result of regulation and the cost of quality labour continue to remain high. But the situation here is if anything even more confused. Owners have to budget and plan for some regulations that continue to move away from them and others that seem set in stone, despite concerns that they will be difficult to comply with and will put further pressure on the price of operations.

At the same time, owners are engrossed in hot pursuit of energy efficiency initiatives, many of which sound promising but which are in some cases lacking in empirical evidence as to their efficacy.

Elsewhere, security concerns a remain, with new threats emerging, in Libya, Suez and in the eastern Mediterranean to add to those already well known off east and west Africa. These will hopefully be temporary effects – though ironically some degree of disruption can be good for earnings – but no one can image that a long term closure of the Suez Canal for example is in the industry's best interest.

New frontiers continue to be explored, with the first Chinese transit of the Northern Sea Route recently completed. Even the secretary general of the IMO has made the journey, suggesting that shipping is preparing for this to become part of the business as usual scenario before long.

And yet doesn't it also seem likely that during his voyage, Mr Sekimizu will have come to the inescapable conclusion that melting summer ice on the NSR should probably go in the 'cons' column when weighing the effect in the context of global warming?

Perhaps he will have returned doubly convinced that the industry must tackle the carbon dioxide issue and perhaps more troublingly, the carbon black issue, before too long.

Still, take a look at this week's LISW programme and it seems inconceivable that any of these pressing issues will be overlooked. With NGO, governmental and industry representatives from across the board meeting, greeting and generally doing their thing, this is actually a very strong opportunity to build a platform for the next year and beyond.

And in case one was in any doubt that it was a shipping industry affair, there's even a black tie dinner, where the industry can toast its successes and look to the future, confident it has a handle on all the big issues and solid strategies to cope with them.

Source: BIMCO

Inséré le 24/08/15 DOSSIER Enlevé le 24/09/15

VLCCs –ready for the scrapyard at 15?

Large tanker owners have been troubled for some time by a lingering black cloud hanging over the spot market.

It's no surprise how we got here; however, as oversupplied position lists tell the tale quite well and matters are only getting worse, McQuilling Services said in a report published last month.

Newbuilding tonnage continues to hit the water at a rapid pace, while the demolition profile has vastly underperformed expectations.

While current market conditions make it hard to see the light at the end of the tunnel, taking a deeper look at possible solutions may uncover a silver lining, the consultancy said.

Frontline leader John Fredriksen recently tried to urge fellow owners to scrap large crude carriers built more than 15-years ago. Although his call has gone unanswered thus far, McQuilling took the opportunity to analyse what might happen should elevated levels of scrapping transpire.

A look at vessel inventory data through August shows that, only six VLCCs had been removed from the trading fleet, compared to the forecast of 10 at this point in the year. For 2013, McQuilling projected that 15 VLCCs would be sent to the breakers, or purchased for non-oil transporting projects such as conversion to floating storage, ore carrier, or heavy lift vessels.

However, the market environment indicates that even if this level is reached, fundamentals will not be rebalanced.

In the current demand environment, the excess availability of tonnage, stringent vetting requirements and technical restrictions, make vessels that are 15 years of age or older prime candidates for accelerated conversion, or scrapping.

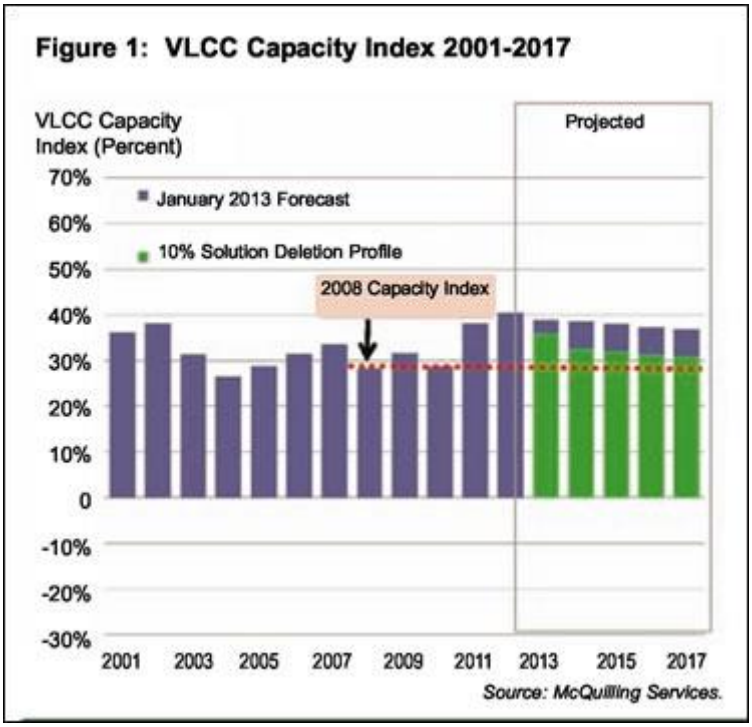
A review of vessels that are actively trading showed that 59 VLCCs, or 10% of the trading fleet falls into this category. The removal of these vessels during the balance of 2013, combined with the year-to-date deletions, would reduce the trading fleet by 65 VLCCs.

In the consultancy's Tanker Market Outlook, the interaction of tonnage supply and demand was captured by evaluating the effect of influences on freight rates that can be seen in the marketplace.

McQuilling calculated a surplus, or deficit number of vessels for all classes by subtracting the estimated demand from the average annual tanker inventory available. Normalising this result produces a 'capacity index (CI)', a measure of the relative tonnage surplus, or deficit of a tanker sector. A higher CI indicates an oversupply of tonnage while a lower CI shows the opposite.

Since 2012, the reading of the VLCC sector has remained one of oversupply, McQuilling said. If owners heed the call for the 10% reduction solution, the VLCC fleet would be reduced by 65 vessels in 2013 and the CI would steadily contract to 31% throughout the forecast period (Figure 1).

Figure 1: VLCC Capacity Index 2001-2017



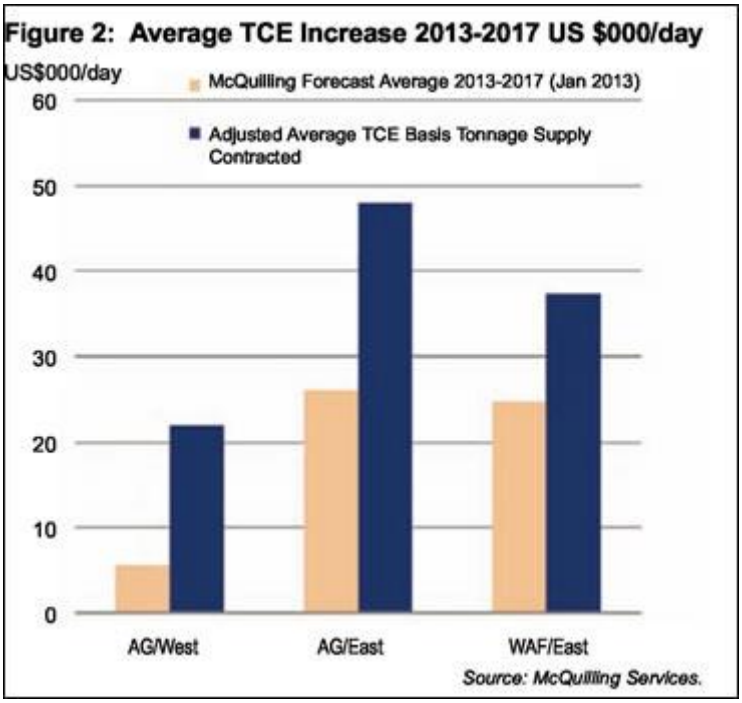
Although the environment of oil demand has been changed, this move would bring the CI back toward 2008 levels. McQuilling's projection is based on the assumption that 15 VLCCs will exit the fleet on an annual basis between 2014 and 2017. Therefore, it has the potential to be more pronounced if the trading lives of vessels are shortened.

In an effort to observe the impact of the lower CI on tanker rates, the numbers were entered into the consultancy's quantitative forecasting model. This uses the relationship between spot rates and the CI. The result of this analysis indicates a significant freight rate response to a reduced tonnage supply. This response

may provide enough evidence to support the call for scrapping of vessels 15- years of age, or older.

Rate increase

In the three VLCC trading routes that McQuilling forecast -AG/West, AG/East and WAF/East - the average increase would be 11 WS points, or approximately $17,000 per day. The impact on average earnings throughout the forecast period is illustrated in Figure 2. The most significant rise in owners' earnings would theoretically occur in 2014.

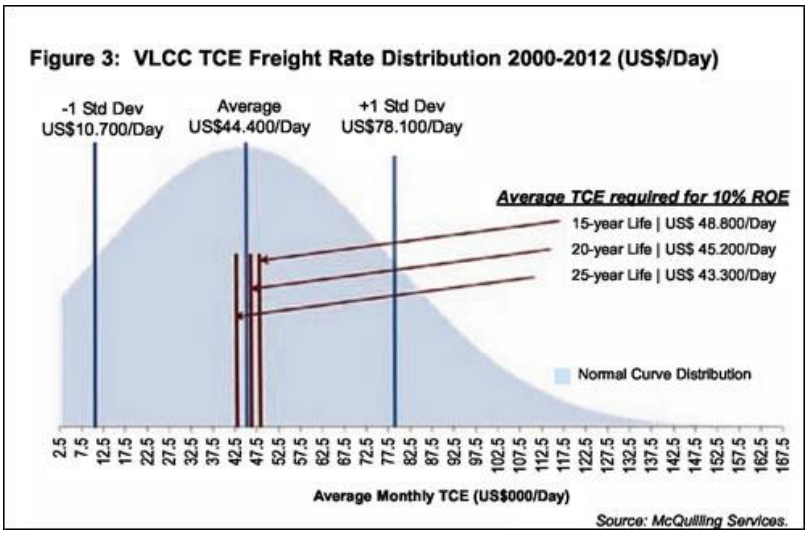


Further support for this drastic inventory reduction initiative was illustrated from the economic perspective in a previous report in which it was observed that the large variation of TCEs in the marketplace to the relative difference in required TCEs for the various VLCC lifespan assumptions appears to be quite small.

The $5,500 per day difference between the required TCE of a VLCC traded for 15 years and one traded for 25 years is immaterial, compared to the expected variation that will be observed in the marketplace over the life of the vessel (Figure 3).

The explanation for this lies in the effect of discounting the cash flows over time. The cash flows in the later years of the project make far less contribution than those in the early years.

As a result, the economic impact of shortening the vessel's life is not as severe as might be expected yet the potential for substantially different TCEs than required during these years is high.



Based on current market realities and the theoretical assumptions that illustrate early scrapping could substantially improve market fundamentals at little expected cost to owners, a swift and steady fleet trimming should occur. However, McQuilling said that it was aware that like any business, tanker owners do not operate under an altruistic code so putting theory into practice will not be easy.

For years the evidence has been mounting that the market was adopting new operating parameters. This has been bolstered by vetting and technical requirements combined with swollen inventories from past orderbooks.

However, even if these elevated deletions occur, further restraint will still be required. If available tonnage is trimmed and rates rise as forecast, increasing transit speeds will be tempting. However, speeding up vessels would eliminate some of the gains by raising tonnage availability through reduced voyage times.

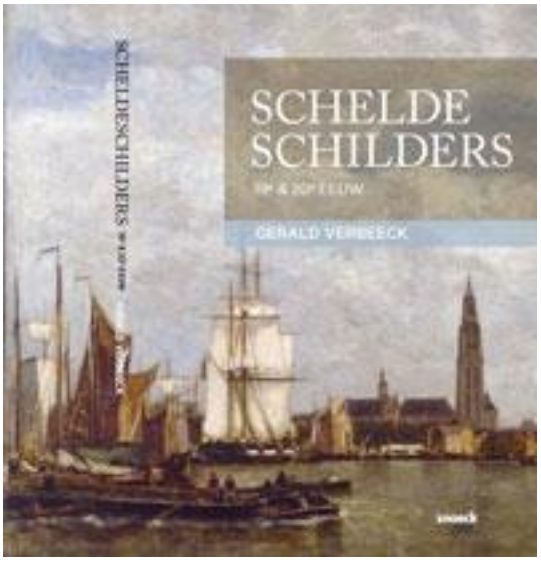
Although the 10% solution will result in dearer transportation costs, charterers should also support this move, as it will allay any concerns regarding owners cutting corners to save on operating costs.

Sending a 15-year old vessel to the breakers in isolation will accomplish nothing, meaning collective action is required. Coaxing collective action, such as that discussed in this report requires true leadership and our industry has a long history of producing leaders.

"Will anyone step up to the task?" McQuilling asked.

TankerOperator

Inséré le 26/08/15 BOEKEN BOOKS LIVRES Enlevé le 26/09/15



Dankzij onze contacten in de uitgeverswereld kon ons lid Gerald Verbeeck (Burcht, 1944) zijn droom realiseren om een boek over de Scheldeschilders van de 19de en de 20ste eeuw te publiceren. De schijnwerpers staan op Jos Mous, Franck Mortelmans, Oscar Verpoorten, Franz Courtens, Eugeen Van Mieghem en zovele anderen. Het schitterend geïllustreerde boek is uitgegeven bij de kunstboekenspecialist Snoeck uit Gent. Gerald geeft ook boeiende lezingen over Scheldeschilders.

Inséré le 26/08/15 HISTORIEK HISTORIQUE Enlevé le 26/09/15

Naissance d'un géant

Sur terre ou sur mer, l'Angleterre victorienne aimait l'extravagance. Des tailles gigantesques, un éclat clinquant, des dépenses astronomiques et des raffinements techniques compliqués sur une échelle inconnue jusqu'alors : ce goût pour la démesure donnait aux Anglais le sentiment d'être les maîtres du monde. Le Great Eastern renforça cette impression.

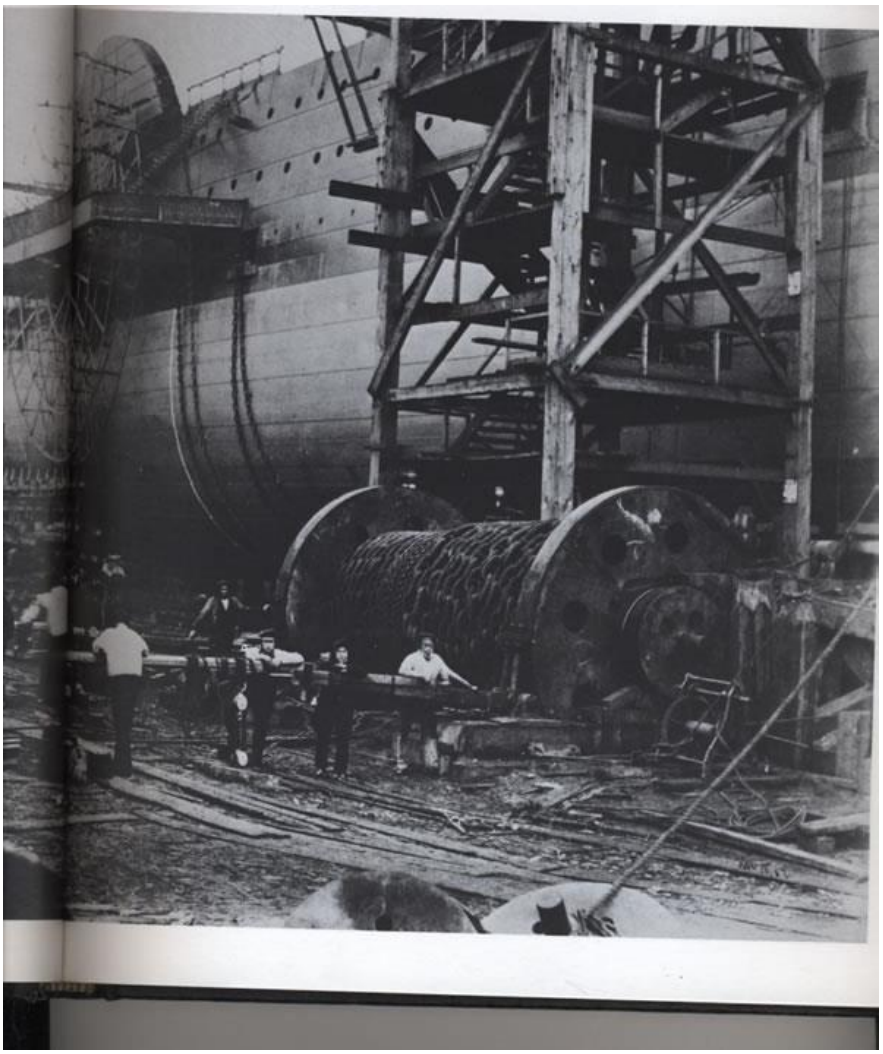
Souliers et pantalon maculés de boue, Isambard Kingdom Brunel, le cigare à la bouche, pose devant les chaînes qui retiennent les 18 915 tonnes du Great Eastern. *En surveillant la construction de celui qu'il appelait «mon gros bébé», Brunel accumulait de nombreuses notes, qu'il glissait les unes après les autres dans son haut-de-forme.*

Quand il fut lancé, en 1858, le Great Eastern était cinq fois plus grand que tout navire existant. La coque en fer de ce géant avait 211 m de long et sa construction avait coûté un million de livres. Le navire comptait 5 salons surchargés d'ors et de miroirs, le plus grand s'étendant sur 280 m2. Ses 800 cabines dont certaines étaient équipées de baignoires et d'eau courante chaude et froide offraient aux passagers un confort digne d'une reine. Deux roues à aubes de 18 m de diamètre et une hélice de 7 m propulsaient le colosse à la vitesse de 18 noeuds. Parlant de sa construction à Millwall, sur la Tamise, un éditorialiste estima que cette réalisation était «une exécution sage et obéissante des desseins de la Providence».

Le Great Eastern était né dans le cerveau d'Isambard Kingdom Brunel (figure de gauche), un ingénieur qui s'était fait connaître par ses réalisations tant sur terre que sur mer. En 1835, il avait construit la ligne de chemin de fer du Great Western qui reliait Londres à Bristol et, trois ans plus tard, le vapeur Great Western qui fut le premier à effectuer des traversées régulières sur l'Atlantique. Le Great Eastern avait été conçu dans le but d'assurer la liaison entre la Grande-Bretagne et l'Australie, ceci dans un confort et des conditions sans pareils.

Mais le grand navire, dont Brunel avait surveillé la construction, ne devait jamais aller en Australie. Il fut affecté aux voyages transatlantiques, alors en pleine expansion. Cependant, il ne produisit pas de bénéfice: ses 4 000 places furent toujours louées en partie seulement. Il subit, en outre, des avaries qui entraînèrent des frais considérables, et conduisit à la faillite plusieurs compagnies. Mais le public britannique ne cessa jamais de l'aimer. Lorsque, après trente ans de service et de multiples transformations, il en fut réduit à devenir une sorte de Luna-park, un spectateur, se souvenant de l'élégance de ses débuts, écrivit: «Il vaudrait mieux l'immerger décemment dans la grande houle de l'Atlantique. Je suis prêt, pour ma part, à contribuer aux dépenses funéraires».

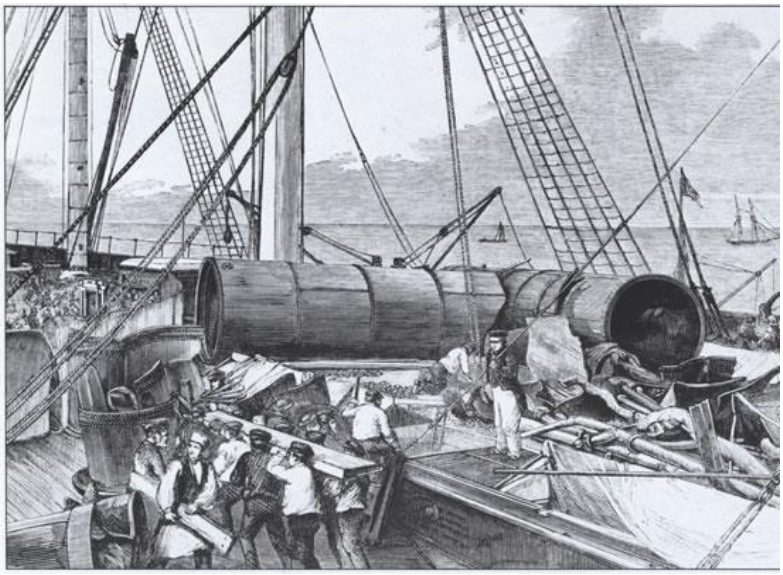
Cette photo fut prise le 3 novembre 1857, le jour où l'on tenta de tirer le Great Eastern *jusqu'à la Tamise. Son lancement présentait d'autant plus de difficultés qu'il devait s'effectuer latéralement: le* Great Eastern *avait une longueur atteignant presque la largeur de la Tamise à Millwall. Deux presses hydrauliques mirent 3 mois pour le guider, centimètre par centimètre, sur les 100 m qui séparaient son chantier du fleuve.*



Une structure métallique d'avant-garde

Quelque extravagants que fussent ses équipements, la raison d'être du Great Eastern reposait sur la rareté des dépôts de charbon en Orient et en Extrême-Orient. Soumettant son idée à l'Eastern Steam Navigation Company, Brunel affirma que «rien n'était plus nouveau que de construire un vaisseau d'une taille suffisante pour transporter son charbon».

Bien qu'il eût encore conservé quelques voiles (à droite), le navire était beaucoup plus révolutionnaire que ne le laissait supposer le plan de Brunel.



La cheminée coupée en deux gît sur le pont du Great Eastern, attestant de la violence de l'explosion qui se produisit le 9 septembre 1858 dans l'une des chaufferies du paquebot, alors qu'il effectuait des essais sur la Manche. Il fut sauvé par la solidité de ses structures et regagna le port.

Ainsi, la coque, constituée de deux «peaux» d'acier distantes de quelque 80 cm, était divisée transversalement par 10 cloisons étanches, à 18 m d'intervalle, et, longitudinalement, par deux autres cloisons étanches qui couraient le long de la salle des machines et de la chaufferie.

Le navire était conçu pour transporter 3 000 tonnes de charbon. Mais avec quelle puissance mouvoir un tel colosse? Brunel utilisa une hélice et 2 roues à aubes. Les machines développaient respectivement près de 600 et 1 000 chevaux. Elles pouvaient fonctionner ensemble ou séparément, de même que les 10 chaudières, actionnées par 100 foyers.

Le «Great Eastern», jouet de la fatalité

Aucune des innovations techniques du Great Eastern ne pouvait l'immuniser contre les caprices de la nature ou les erreurs des hommes.

Le premier accident dont fut victime le navire survint le 9 septembre 1858, lors de son voyage inaugural sur la Manche. Un correspondant du Times de Londres le relata ainsi: «Il y eut un grondement confus, suivi du vacarme effrayant de l'écrasement du bois et du fer emmêlés. Puis tout disparut derrière un nuage de vapeur.» Quelqu'un, par erreur, avait laissé verrouillées les soupapes de sécurité des chaudières fournissant la vapeur aux machines des 2 roues à aubes. La pression de vapeur avait dépassé les limites permises, provoquant une explosion qui fit 15 morts.

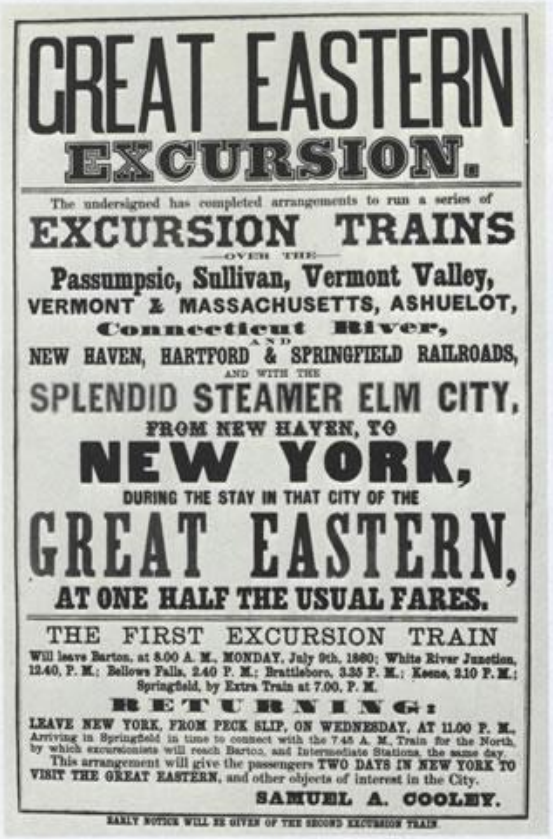
Le Great Eastern devait connaître une nouvelle épreuve en 1861. Au cours d'une traversée régulière, le navire fut pris dans une tempête qui arracha son axe de gouvernail et ses roues à aubes, le laissant sans défense contre la mer déchaînée. Les victimes, cette fois, furent des passagers : on dénombra 25 fractures diverses. La plupart des accidents se produisirent dans le grand salon, où nombre de passagers effrayés s'étaient regroupés. Les meubles glissèrent sur le plancher et ricochèrent contre les cloisons, blessant de nombreuses personnes. Il fallut huit mois pour réparer le navire et les frais s'élevèrent à 60 000 environ.

Cette gravure d'époque montre le grand salon du Great Eastern, *incliné à 40°, au cours d'une violente tempête sur l'Atlantique, en 1861. Le paquebot faisait voltiger passagers et mobilier comme des fétus de paille. «Que celui qui a vu le* Great Eastern, *explique un passager, s'imagine la plate-forme supérieure des roues à aubes plongeant dans l'eau, et il aura une légère idée de l'inclinaison que prit le plancher du salon.»*

Centre d'attractions pour marins d'eau douce

Le Great Eastern suscita tout au long de sa carrière une irrésistible curiosité. Sans distinction de rang ou de milieu social, tous voulaient le voir. La reine Victoria, son époux le prince Albert, et le roi des Belges Léopold I" allèrent l'admirer, comme des milliers de badauds, avant qu'il ne quittât la Tamise en juin 1860 pour son premier voyage transatlantique. A son arrivée à New York, il fut salué par une salve de 14 coups de canon, et le carillon de Trinity Church joua «Rule Britannia». Une foule énorme se pressait sur les quais, et des spectateurs enthousiastes se saisirent des aussières lancées du paquebot pour l'aider à s'amarrer. La situation ne manquait pas d'humour car il n'y avait à bord que 38 passagers. Chacun avait payé son voyage 25 £ et la somme recueillie ne couvrait qu'une infime partie des frais.

Les propriétaires du Great Eastern, désespérément à court d'argent, décidèrent d'en faire un centre d'attractions à New York. Comme en Angleterre, le paquebot attira les curieux par milliers. En quatre semaines, 143 764 personnes vinrent admirer ses merveilles. Elles laissèrent, à raison de 50 cents par tête, 71 882 £ aux caisses, mais cela ne fut pas suffisant pour rentabiliser le navire.



GREAT EASTERN
EXCURSION.

The undersigned has completed arrangements to run a series of
EXCURSION TRAINS
OVER THE
Passumpsic, Sullivan, Vermont Valley,
VERMONT & MASSACHUSETTS, ASHUELOT,
Connecticut River,
AND
NEW HAVEN, HARTFORD & SPRINGFIELD RAILROADS,
AND WITH THE
SPLENDID STEAMER ELM CITY,
FROM NEW HAVEN, TO
NEW YORK,
DURING THE STAY IN THAT CITY OF THE
GREAT EASTERN,
AT ONE HALF THE USUAL FARES.

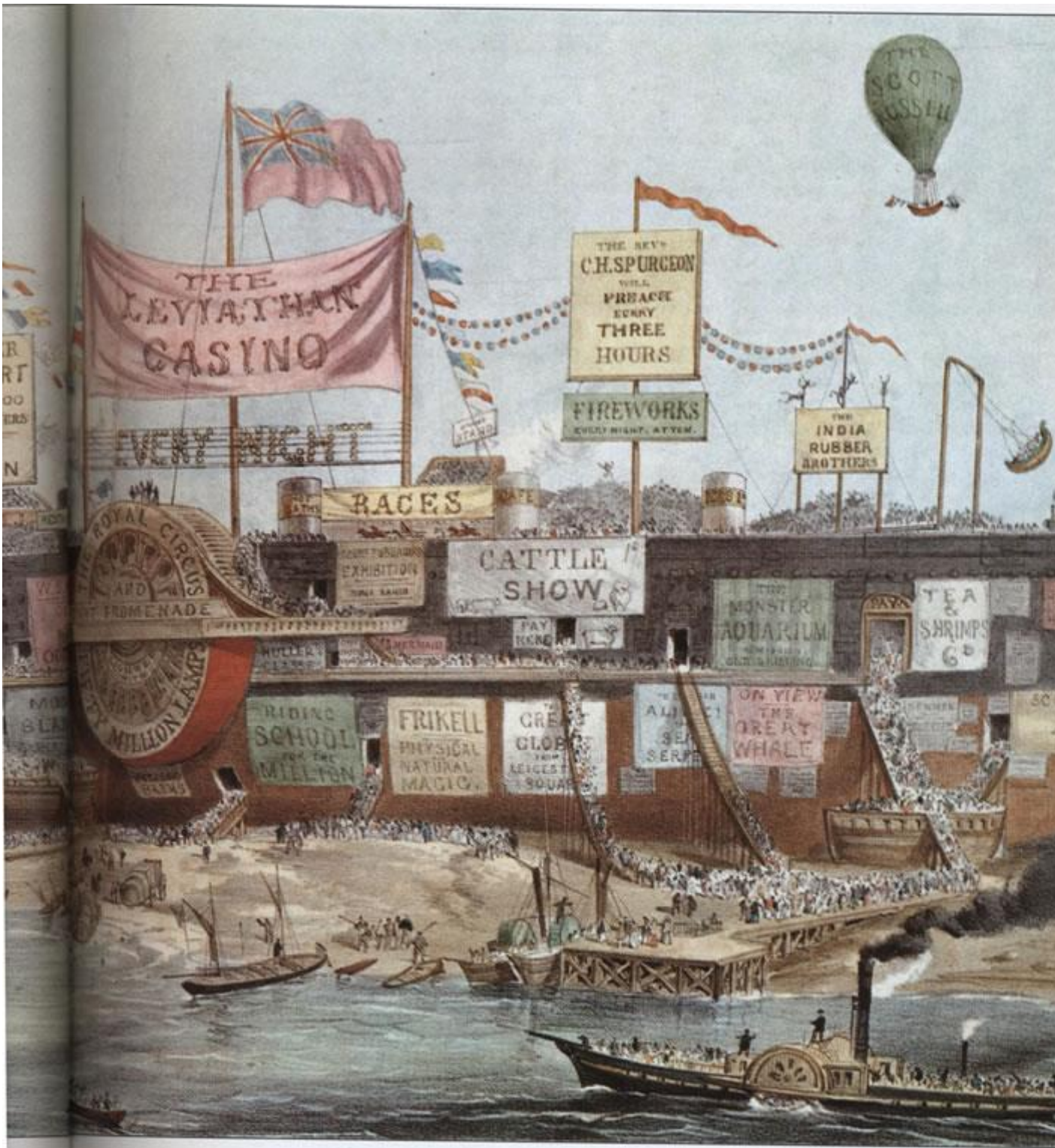
THE FIRST EXCURSION TRAIN
Will leave Barton, at 8.00 A. M., MONDAY, July 9th, 1860; White River Junction, 12.40, P. M.; Bellows Falls, 2.40 P. M.; Brattleboro, 3.35 P. M.; Keene, 3.10 P. M.; Springfield, by Extra Train at 7.00, P. M.

RETURNING:
LEAVE NEW YORK, FROM PECK SLIP, ON WEDNESDAY, AT 11.00 P. M., Arriving in Springfield in time to connect with the 7.45 A. M. Train for the North, by which excursionists will reach Barton, and Intermediate Stations, the same day.
This arrangement will give the passengers TWO DAYS IN NEW YORK TO VISIT THE GREAT EASTERN, and other objects of interest in the City.

SAMUEL A. COOLEY.

EARLY NOTICE WILL BE GIVEN OF THE SECOND EXCURSION TRAIN

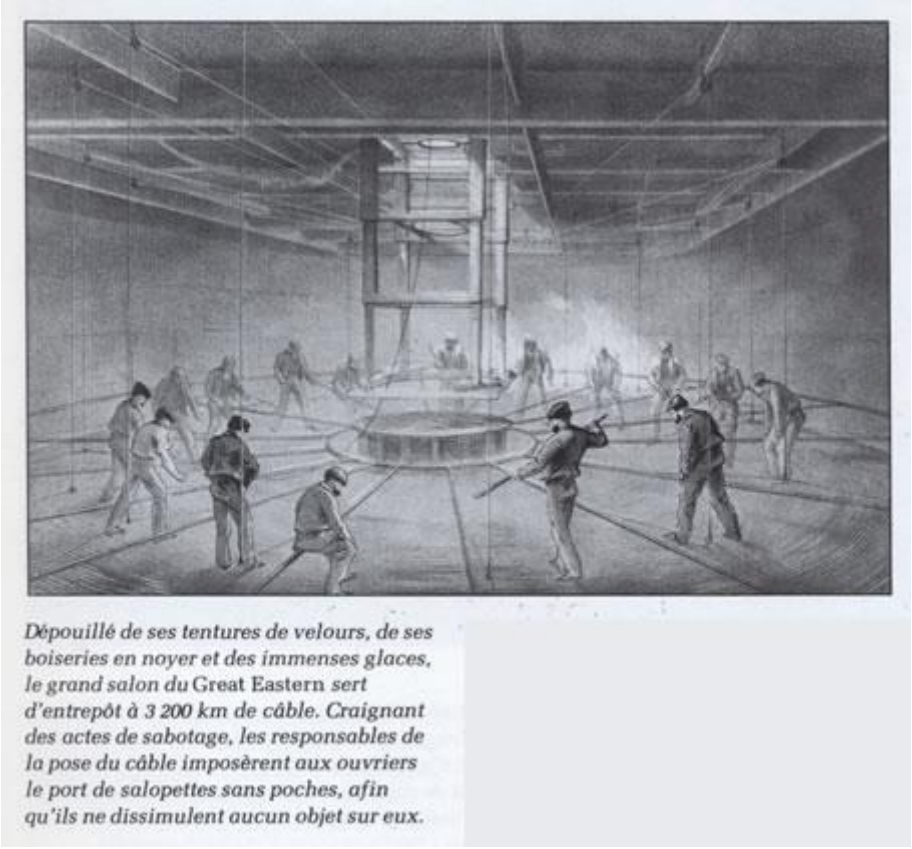
Exploitant l'intérêt des Américains pour le Great Eastern, *des compagnies ferroviaires et une compagnie maritime de Nouvelle-Angleterre proposent des tarifs réduits pour New York, où le paquebot resta quatre semaines après son voyage inaugural.*



En 1858, un caricaturiste britannique présen
comme une attraction foraine. La raillerie s
en 1885, un homme d'affaires de Liverpool
26 200 £, à peine 3 % de son prix, et le transf
avec des stands de vente de souvenirs. Un s
navire comme d'une « flèche qui aurait man

Enfin rendu à une tâche plus noble

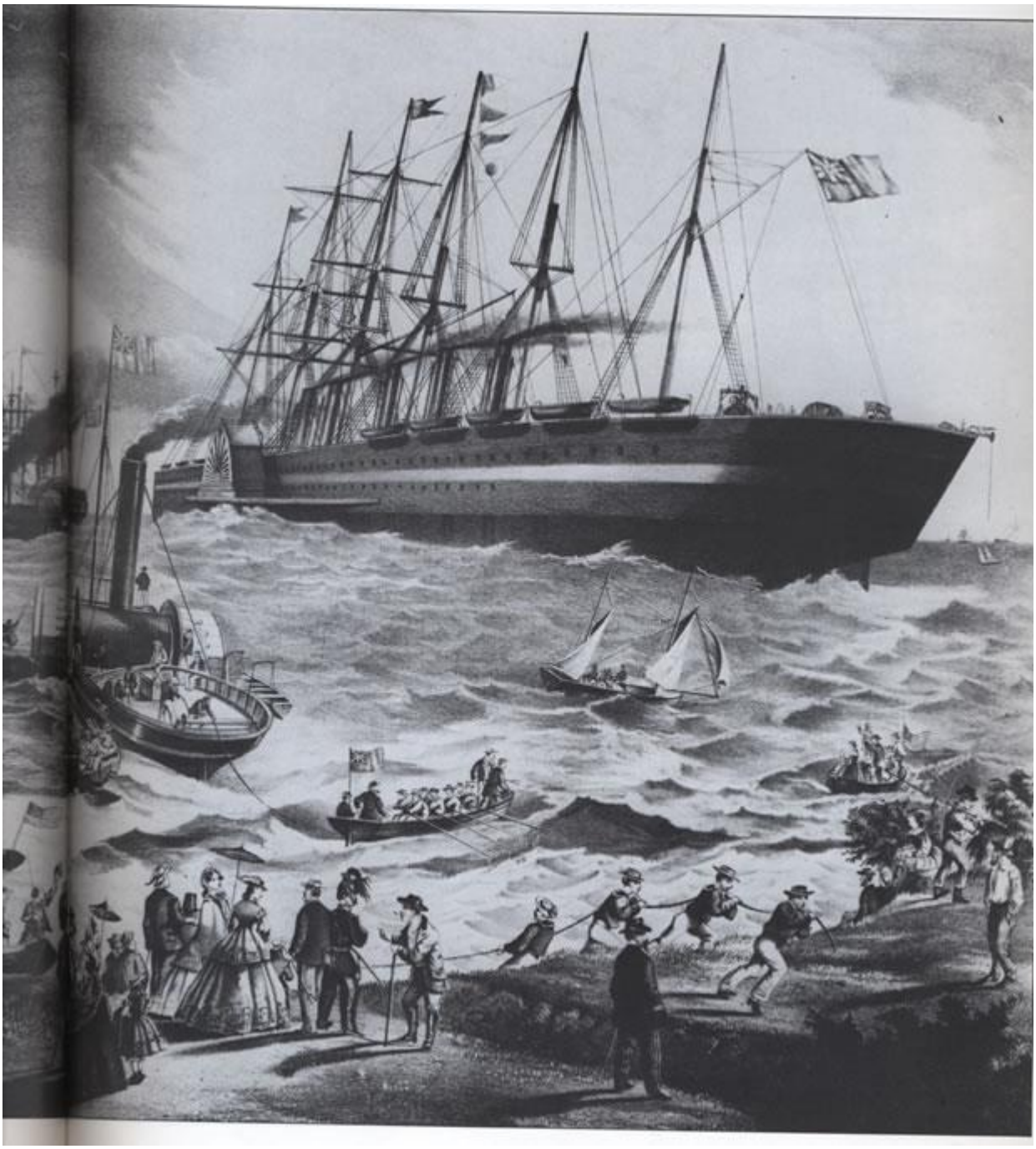
Le Great Eastern obtint ses plus grands succès non pas en tant que palace flottant, mais comme outil de travail affecté aux travaux les plus durs. Et ceci, grâce à Cyrus Field, un industriel américain qui s'était lancé en 1857 dans une aventure étonnante: la pose au fond de l'Atlantique d'un câble télégraphique reliant la Grande-Bretagne à l'Amérique du Nord. Après avoir enregistré plusieurs échecs en utilisant de petits navires, Field acheta le Great Eastern en 1864 et le fit équiper.



Dépouillé de ses tentures de velours, de ses boiseries en noyer et des immenses glaces, le grand salon du Great Eastern *sert d'entrepôt à 3 200 km de câble. Craignant des actes de sabotage, les responsables de la pose du câble imposèrent aux ouvriers le port de salopettes sans poches, afin qu'ils ne dissimulent aucun objet sur eux.*

Ce navire était parfaitement adapté à ce type de travail; lui seul, en effet, disposait d'un espace suffisant pour loger les 3 200 km de câble nécessaires pour relier les deux côtés de l'Atlantique et, bien qu'il fût gigantesque, il pouvait, grâce à son hélice et ses 2 roues à aubes, pivoter sur place, avancer ou reculer au mètre près, selon les ordres de l'homme de barre. Cette souplesse de manoeuvre se révéla fort utile lorsque divers éléments des appareils de levage se rompirent à quatre reprises, et que, chaque fois, le câble disparut sous plus de 3 000 m d'eau. Le 26 juillet 1866, le Great Eastern apporta enfin le câble à Terre-Neuve, permettant les communications télégraphiques entre l'Europe et l'Amérique du Nord. Dans les huit années qui suivirent, il posa 5 autres câbles, 4 sous l'Atlantique et le dernier, enfin, reliant Aden à Bombay.

Les jours de gloire du grand navire tiraient à leur fin, quand un observateur pessimiste déclara que son principal mérite avait été « de démontrer qu'il existe une limite à la taille que peuvent atteindre les bateaux à vapeur». Et, bien sûr, il se trompait! Quarante ans plus tard, en effet, la taille du Great Eastern était largement surpassée.



Inséré le 28/08/15 NIEUWS NOUVELLES Enlevé le 28/09/15

REVOLUTIONARY RANGE AND RESOLUTION WITH NEW SIMRAD HALO™ PULSE COMPRESSION RADAR

Introducing the World's Most Affordable Solid-state, Open-array Radar with Pulse

Compression Technology for Commercial Vessels Navico Commercial Marine Division today announced the launch of Simrad HALO™ Pulse Compression Radar, the world's most affordable solid-state, open-array radar system with pulse compression technology for non-SOLAS applications aboard commercial vessels. Combining the advantages of Simrad FMCW Broadband Radar™ and traditional pulse radar systems, HALO radar detects targets as close as 20 feet (6 metres) – well within pulse radar's short-range "blind spot" – while delivering exceptional long-range performance up to 72 nautical miles.

HALO radar provides unmatched target resolution, with Beam Sharpening for enhanced target separation control. In Dual Range mode, HALO radar functions as two radars in one – monitoring two distance ranges simultaneously with independent displays, controls, MARPA target tracking, and no compromises in detection at either range.

Custom Harbour, Offshore, Weather and Bird-finder modes tune HALO radar's advanced signal processing to ensure targets are seen vividly, even in the toughest environmental conditions. Commercial fishing fleets will find HALO radar's bird-finder mode a powerful tool for locating flocks of birds hovering over productive catch areas. MARPA target tracking, combined with HALO radar's close-range performance and excellent target separation, gives operators the ability to track commercial and smaller recreational craft at close range in busy harbours, ports, and unfamiliar waters. HALO radar provides 10-target MARPA tracking, or 20 targets total in Dual Range operation, with closest point of approach (CPA) and time to closest point of approach (TCPA) displayed for each target. MARPA tracking requires an optional heading sensor.

The ability to be up and running in less than 30 seconds offers significant commercial advantages in reaction time and productivity. Unlike traditional pulse radar, HALO radar does not rely on a high-powered magnetron to transmit a signal, allowing it to resume full operation instantly from standby and in just 16-25 seconds from powered-off – avoiding the two- to three-minute warm-up time associated with traditional pulse radar systems. HALO radar is built to last, with its reliable solid-state transceiver meaning no magnetron to replace, and no manual tuning required as the magnetron heats up or ages. Similarly, a solid-state brushless motor driver means no motor brushes to wear out and replace. HALO radar is designed to operate at high speed in winds up to 70 knots, and is rigorously tested to exceed IEC environmental, vibration and operational standards.

Solid-state technology also means compliance with the latest, low emission and radiation standards, making it safe to run HALO radar in anchorages and marinas. In fact, HALO radar is radiation safe to people within the swing circle of the array on all models. This makes it the ideal choice for non-SOLAS passenger vessels and smaller workboats, safe to mount almost anywhere on board and to operate in close proximate to passengers and crew.

"With the launch of the new Halo radar into the commercial market we have introduced reliable Solid-state technology at a fraction of the cost of existing commercial solid state radar currently available on the market. " said Jose Herrero, MD Commercial Marine Division, "By introducing the new radar, even the smallest fleets can take advantage of the comprehensive feature available, with a perfect mix of near and distant range, reliability and resolution without the associated warm-up time, power consumption, costly maintenance or harmful emissions."HALO radar is exclusively compatible with Simrad NSS evo2 and NSO evo2 multifunction display systems, and connects via Ethernet with a bulkhead-mounted interface box below deck. The radar requires just 40 Watts average in no wind, and 150 Watts at maximum wind velocity. In standby mode, power consumption is only 6.5 Watts, versus 10 to 15 Watts for traditional pulse radar. With such low power consumption, support for 12- or 24-volt systems, and availability in 3-, 4- and 6-foot open arrays, HALO radar is ideal for a multitude of commercial craft. Availability: Navico

Commercial Simrad HALO™ Pulse Compression Radar is scheduled for availability from authorised dealers in 2015

Inséré le 30/08/15 DOSSIER Enlevé le 30/09/15

Using radar overlay to improve ECDIS navigation

ECDIS is a powerful navigational tool, but it is important that it is not followed blindly – being aware of potential data discrepancies in using the system can help to make it safer and more effective, writes Vladimir Fadeev, Jeppesen

The step-by-step introduction of ECDIS as mandatory equipment aboard sea vessels began in 2012 and will be completed by 2018.

By that time, navigators should be familiar with the fundamental principles of using ECDIS as a part of an integrated shipboard navigational system and be able to react promptly to system malfunctions and/or failures.

Although attempts have previously been made to combine different types of navigational information, e.g. AIS (Automatic Identification System), with radar images, ECS (Electronic Chart System) became the first full-featured integrator of this kind – a computer system combining information from a pre-defined set of external sensors on one screen with an electronic chart as the backdrop.

Whereas early ECS could only display GPS locations on an electronic chart, today's ECDIS can integrate course data from gyro, satellite and magnet compasses, as well as data from echo sounders, wind sensors, AIS, ARPA and other sources. This added data provides vital support for navigational tasks.

However, the apparent seamlessness of integrated navigational data may lead to the navigator placing excessive trust in navigational technology and failing to recognise system malfunctions.

This is why the Manila amendments to the Seafarers' Training, Certification and Watchkeeping Convention code (STCW) places particular emphasis on a navigator's skills in correctly determining probable system errors and reacting adequately to them.

This, in its turn, requires not only a clear understanding of the fundamental principles of ECDIS performance but of dedicated technological aids as well.

Radar overlay (a raw radar image overlaid on an electronic chart) is the best means of verifying cartographic data and the output of navigation sensors.

The radar overlay feature of an ECDIS not only duplicates the radar itself, as some navigators know, but can also be used to verify the entire navigational system. The purpose of this article is to explain how to do this.

Radar-ECDIS integration

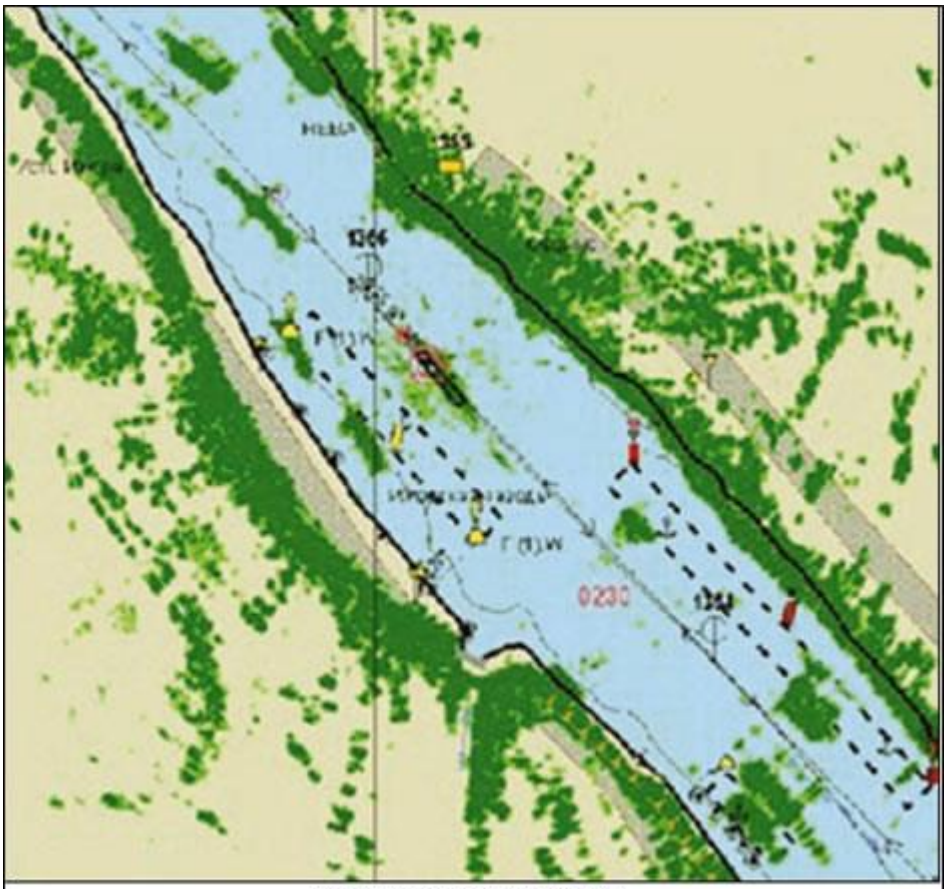


Figure 1 Radar image overlay

Radar-ECDIS integration technologies include "digital NMEA integration" and radar processors. The former allows for input of tracked target data into ECDIS provided the radar has ARPA; the latter allows analog-digital transformation of the video signal from the radar and input of this signal into the ECDIS (as can be seen in Figure 1).

With radar data on a chart backdrop, potentially confusing effects that would remain unnoticed on a radar screen become visible. There are three main effects to consider.

The first is due to radars having an antenna pattern width: the bigger the antenna's physical size, the narrower the pattern, with the typical figure being roughly 1 degree by azimuth. The result is that any object, even a point object such as a buoy, is enlarged by that same value on the screen.

For instance a buoy 1 mile from a radar with a 1 degree antenna pattern seems 30 metres in size on the chart, and the further it is from the radar, the bigger it will be.

Moreover, angular enlargement is not the only kind of distortion; distance is also increased due to the finite length of radar pulses.

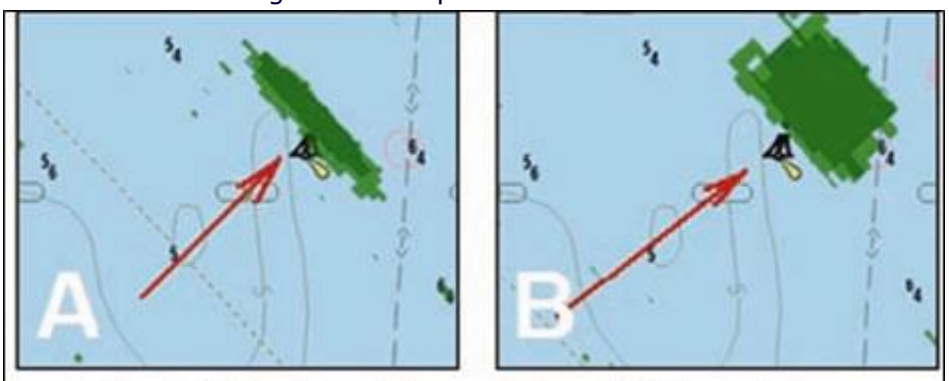


Figure 2 A(left) – short-pulse image of a buoy; B(right) long-pulse image

At short pulses of about 50 nano-seconds, the distortion can be up to 10 metres; at middle and long pulses the effect is even stronger.

So, a point object on a chart looks much bigger than its true physical size on the radar image. To avoid being confused by this, a navigator must remember that the true location of an object is in the middle of the mark's front - see Figure 2 .

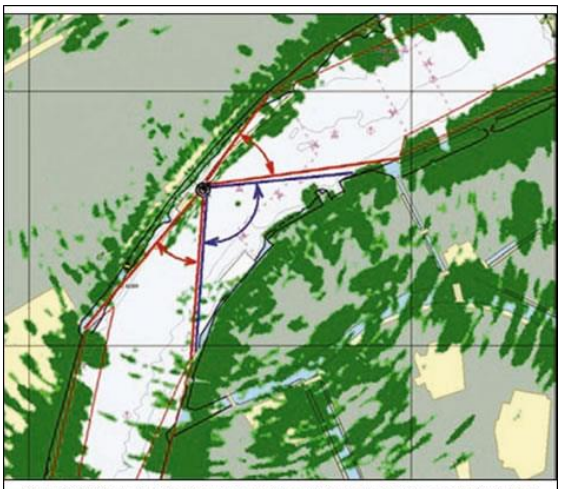


Figure 3 Shifted reflection from the coastline at sharp observation angles (red lines)

The same causes give rise to another confusing visual effect: reflections from a coastline that are generated at sharp angles appear further from shore than they actually are, (red sectors in Figure 3). Coastline reflections generated at near-right angles (blue sector in Figure 3) show no such distortion. This takes us to a practically significant conclusion: sailing along a coastline the navigator can trust only those reflections from the coastline that come from segments currently observed at near-right angles. The same effect, in principle, can also be observed right on the radar screen, but maybe not so clearly. It is the chart background under a radar image that helps to reveal the effect.

The third effect that has to be taken into account is that the coastline reflection does not necessarily come from the coastline itself and therefore might not coincide with the coastline on the chart.

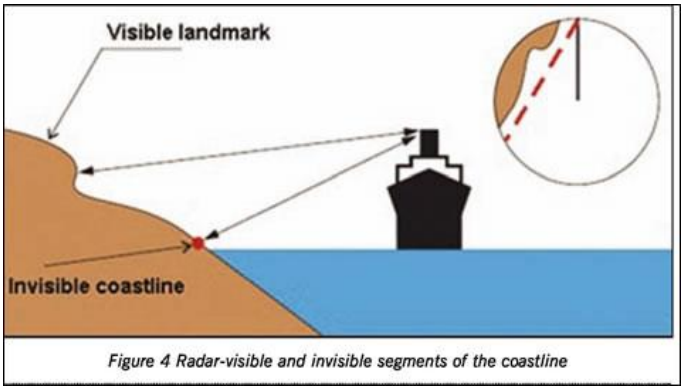


Figure 4 Radar-visible and invisible segments of the coastline

This happens because most reflections come from sharp slopes or massive on-shore objects, while gentle slopes produce poor reflections and therefore may be poorly visible - see Figure 4 , where the actual (but invisible on a radar image) coastline is shown with a red dotted line.

However, mismatches like that between the coastline shown on the radar image and on the charts are quite common and recognised - see Figure 5. It is important that a navigator doesn't get confused by the discrepancy between the coastline viewed via the radar and that shown on the chart.

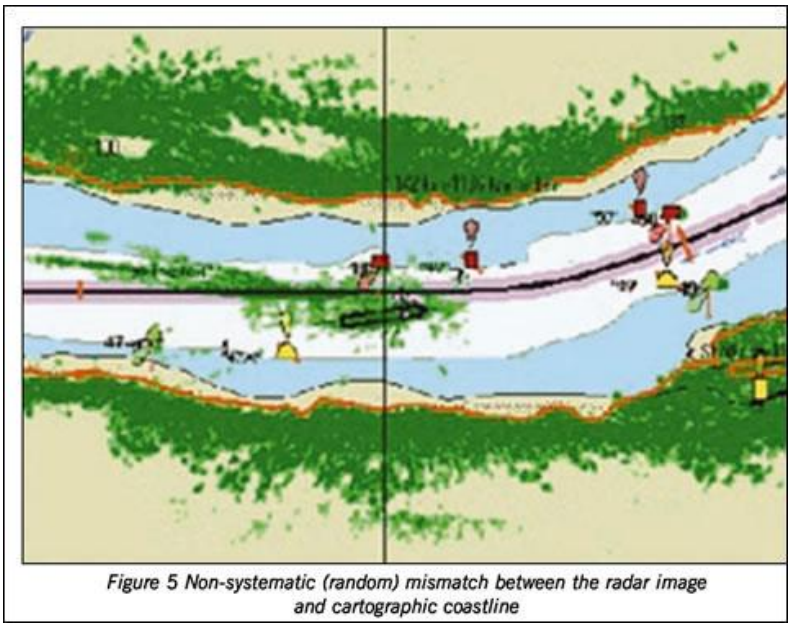


Figure 5 Non-systematic (random) mismatch between the radar image and cartographic coastline

Malfunctions and ECDIS performance

Keeping in mind what we have said about integrating radar and ECDIS, let's look at how malfunctioning navigational systems may affect ECDIS performance.

The most dangerous malfunctions are due to cartographic errors. Such errors result from causes lying beyond the scope of this article; we only presume that cartographic errors do happen, so charts shall never be considered

absolutely trustworthy (cases have been documented where islands were missing from navigational charts).

So, the question is whether the navigator is able to determine errors of this kind. It is often said that an experienced navigator in a familiar area can easily do so by using their experience and intuition. But what if they aren't familiar or visibility is poor?

Of all ECDIS functionality, radar overlay is the most effective in situations like these, as acknowledged in IMO circular #255. Mismatch between a coastline on the chart and the radar image might be an indicator of a cartographic error, though the other possible causes of visual distortions of a coastline described above should be kept in mind.

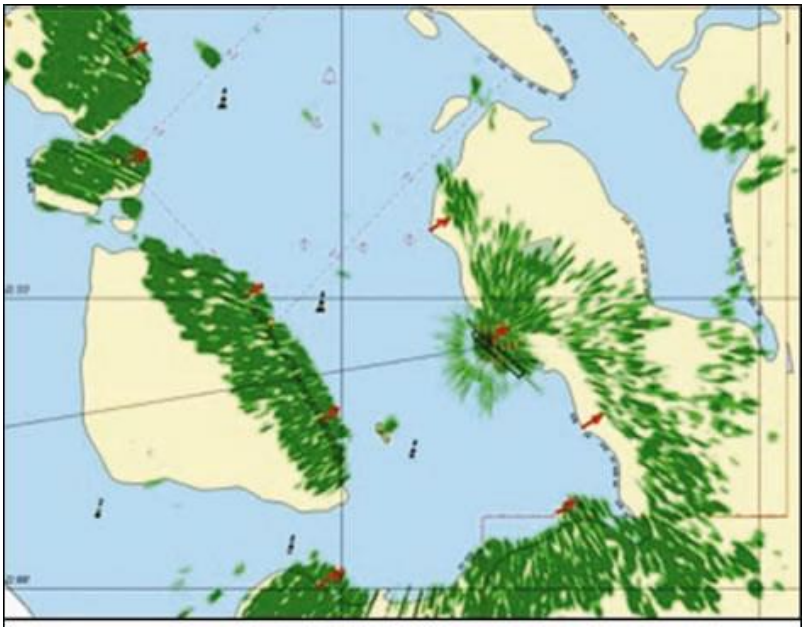


Figure 6 Radar image shift due to misrecalculated datums

Occasionally, cartographic errors may occur on charts because of recalculation errors between local and WGS-84 datums (geodetic coordinate systems). Errors of this kind add a systematic shift to the true position of a line or an area - see the red codirectional arrows of roughly equal lengths in Figure 6. Positioning system errors can also occur. Although GPS (GLONASS) devices have proven so reliable that we trust them absolutely, they do sometimes malfunction, showing errors of up to one hundred metres. The question is, how can the navigator determine this? One method is to switch the positioning system into differential mode, though this is often unavailable. Verification of echo sounder data against bathymetry on the chart may help too, along with using traditional positioning techniques. Radar image analysis is, however, the best method. If a coastline shows a constant degree of shift when a radar image is overlaid on a chart (e.g. in Figure 6), this is strong evidence of a systematic GPS error. With GPS running correctly, both coastlines coincide fairly accurately, as in Figure 7. Sensor errors may also misinform the navigator about the course of a vessel and produce false bearings to targets, resulting in misinterpretation of the navigational situation in general.

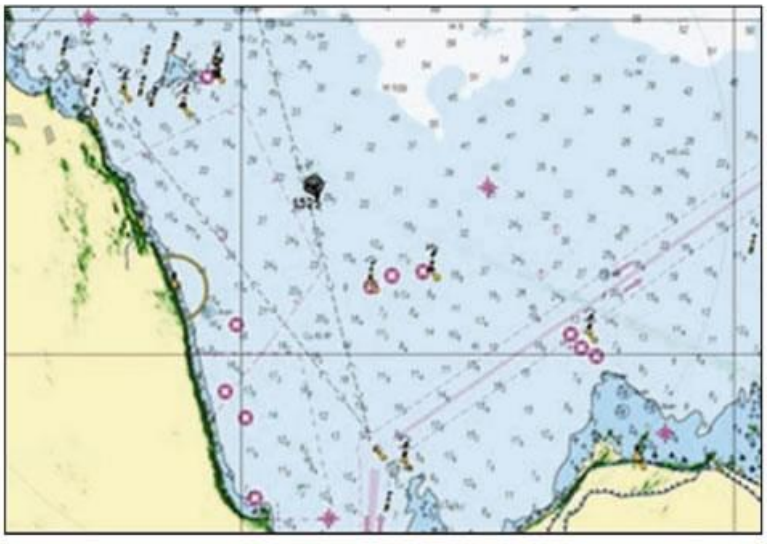


Figure 7 Correct GPS performance

How can radar overlay help in a case like this? It can display a radar image that appears to be rotated, with respect to the chart, around the current ship position by an angle of error, as indicated by the red counter-directed arc pairs 1 a/b and 2 a/b in Figure 8.

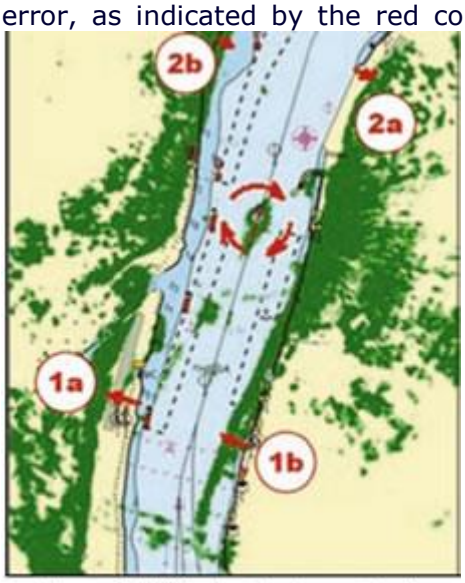


Figure 8 Rotated radar image due to course sensor error

AIS information, mandatory on board SOLAS vessels since 2008, can also be checked against a radar image. As long as AIS is functioning correctly, AIS targets on an ECDIS coincide with radar reflections by angle and range. The same is true for ARPA. So how much does radar overlay cost? The price for a modern radar processor typically ranges from US$1,500 to $4,000 (typically only 5 to 20 per cent of the total ECDIS price, depending on other ECDIS options included), which seems like good value. With radar overlay enabled, you can efficiently verify your ECDIS performance in real time. The workflow couldn't be simpler: no prior preparations (calculations, set-up, etc.) are needed; all you do is check the radar image against the chart.

DigitalShip

Inséré le 01/09/15 NIEUWS NOUVELLES Enlevé le 01/10/15

Euronav completes acquisition of four VLCCs from Hellas' Metrostar for $96 million each

Paddy Rodgers, CEO, said "Euronav is delighted to enhance our fleet with the addition of four high specification modern VLCCs. The tanker sector continues to perform strongly with a positive outlook. This accretive transaction further cements Euronav's position as the largest, independent quoted crude tanker platform."

1. Acquisition of four new VLCCs Euronav has entered into an agreement for the acquisition through resale of four VLCCs which are completing construction at Hyundai Heavy Industries for an aggregate purchase price of USD 384 million or USD 96 million per unit. The vessels are due to be delivered as early as September 2015, January, March and May 2016. In addition and against the payment of an option fee of an aggregate amount of USD 8 million, the seller has also agreed to grant Euronav an option to acquire up to a further 4 VLCCs sisters of the ones acquired at a price of USD 98 million each.

This transaction is consistent with three core company principles. Firstly, these vessels are ex-yard resales, which do not add supply to the market and therefore meet our stated aim to only add existing vessels to our fleet and not to order new ships. Ordering new vessels only reduces the value of the existing fleet globally. In addition there is the benefit of buying such vessels in series with the synergies of sister ships. Secondly,

the time lag between the purchase and the deliveries to the company will be very similar to buying a fleet on the water, therefore allowing the capital deployed to be rewarded by the freight market imminently.

Last, Euronav actively looks to regularly rejuvenate its fleet and enhance its operational strength. This will be achieved as these four vessels are of the latest design and similar or better to the ones acquired in July 2014.

2. Financing of Acquisition

Euronav will meet the financing of this acquisition with existing borrowing facilities. The payment profile for this transaction will mean the largest portion of each payment for each vessel will be made on delivery of each ship. Balance sheet debt leverage will move from around 40% at the end of March 2015 to less than 50% and will therefore continue to be appropriately levered allowing the Company to retain its strength and flexibility.

3. Dividend policy remains intact

As the acquisition is entirely funded with new debt and existing revolving facilities, Management confirms that the Company will maintain its current dividend policy of distributing at least 80% of its annual net result. Management believes the additional vessels should be accretive to Euronav earnings per share.

4. Market update

The current quarter has been very stable with owners resolute in their discipline and freight rates being consistently strong throughout the quarter. Robust demand, growing oil supply and increased ton miles during the quarter underpin our confidence that the tanker market is at the start of a sustained multiyear recovery. The market remains dynamic with a number of new trading routes being established over the past year. We look forward to updating the market further when Euronav announces its Q2 earnings on July 30th.

5. Disclosure

As is customary in the shipping industry, Euronav's management assesses transactions in the context of its fleet development on a regular basis. It is Euronav's policy not to comment on a proposed transaction until it has been approved by the Board of Directors and a firm agreement has been signed both for acquisitions and sales.

Source: Euronav

Inséré le 03/09/15 BOEKEN LIVRES Enlevé le 03/10/15

"International Tug & OSV. Annual Review 2014"

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

Naar jaarlijkse gewoonte publiceerde het vakblad International Tug & Salvage (IT&S) ook eind 2014 een overzicht van de recentste nieuwbouw-sleepboten die in het voorbije jaar

wereldwijd werden opgeleverd. Net als vorig jaar zijn nu ook de representatieve 'Oceangoing Supply Vessels' (OSV) opgenomen. Onder de titel "International Tug & OSV. Annual Review 2014" biedt dit 110 pagina's tellend jaarboek gedetailleerde besprekingen van 32 verschillende sleepboten en hoogzee bevoorradingsschepen. Voor iedere sleepboot en supply vessel wordt de bespreking aangevuld met een G/A plan en een kleurenfoto. de besproken sleepboten biedt dit jaarboek ook een overzicht van de belangrijkste nieuwtjes die er in 2014 te sprokkelen vielen.
"International Tug & OSV. Annual Review 2014" (ISBN 978-1-904050-27-8) kost £30, inclusief P&P. Wie zijn exemplaar per luchtpost wenst te ontvangen moet daar nog eens £4,50 bijtellen. Bestellen kan bij The ABR Company Limited, Prospect Place, Trowbridge, Wiltshire BA14 8QA,UK. Tel. +44(0) 1225.868821, Fax +44(0) 1225.868831, email: info@tugandosv.com , website: www.tugandosv.com

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Inséré le 03/09/15 DOSSIER Enlevé le 03/10/15

Direct damage stability for tankers discussed

The IMO has adopted guidelines and applicable IMO Code amendments for the mandatory carriage of damage stability verification instruments on board new and existing tankers.*

The entry into force date is 1st January, 2016 with existing ships having to comply by the first renewal survey after this date and no later than 1st January, 2021.

In a White paper, Herbert-ABS discussed the options open to tanker owners/managers and operators.

In April this year, IMO/MEPC 66 adopted the guidelines for demonstrating compliance with the requirements for damage stability. Amendments to MARPOL Annex I, BCH Code, IBC Code and to the Survey Guidelines under HSSC to mandate the provision of a computer program capable of calculating the applicable damage stability requirements, were agreed.

The approval generally applies to the software, but may include hardware, for example, when the instrument receives input from sensors for the contents of tanks. Similar revisions for gas tankers and the IGC Code were adopted by MSC 93 in May 2014.

All tankers on international voyages must meet the IMO requirements for damage stability. These regulations are contained in the MARPOL Convention for general purpose tankers, the IBC and BCH Codes for bulk chemical carriers and the GC and IGC for gas carriers.

In 2005, several port states, led primarily by the UK's Maritime and Coast Guard Agency (MCA), recognised that many tankers had on board documentation to demonstrate compliance with these damage stability requirements only when the ships were loaded in accordance with the ships standard loading conditions in the approved Stability Booklet.

However, during actual operations many tankers are loaded to conditions, which significantly differ from these standard loading conditions. A survey by the MCA indicated that 'more than 50% of vessels are operating to conditions, which are not in the approved Stability Information Booklet'.

It is generally understood that since most tankers use computer programs to evaluate stability and strength for any loading condition, there is no longer a practical incentive to stay with the standard loading conditions. It is also generally recognised that modern

double hull tankers are generally more vulnerable to damage stability scenarios and the new regulations, including bottom raking damage, are more onerous then past damage stability regulations.

Compliance options

There are four possible options for operators to demonstrate compliance with the IMO requirements for damage stability:

Load the ship only in strict accordance with the standard approved loading conditions from the Stability Booklet, which have been approved for both intact and damage stability. Obtain specific approval for a loading condition which has a significant variation from these standard loading conditions.

Load the ship in accordance with a limiting KG, or required GM, envelope curve (or curves), which have been developed in accordance with the damage stability requirements.

Use an approved computer program to verify that the non-standard loading condition complies with the damage stability requirements, as well as the intact stability requirement.

The administration should take into account the guidelines for the approval of stability instruments (MSC.1/Circ.1229) when reviewing stability instruments. An approved on board stability instrument would not replace the approved Stability Booklet. Stability software should be approved, but the same should not apply to the hardware which could be covered by national standards.

The intent is written to apply to all vessels with provisions for the administration to provide waivers to existing tankers with any of the following conditions:

- Tankers with stability instruments already installed on board capable of verifying intact and damage stability.
- Tankers operating on a dedicated service with a limited number of loading permutations.
- Tankers where stability verification is made remotely by means approved by the administration.
- Tankers loaded within an approved range of loading conditions.
- Tankers provided with approved limited KG/GM curves that verify compliance with all applicable intact and damage stability requirements.

It should be noted that the UK MCA defines significant variation as 'a deviation in mass in cargo or ballast tanks exceeding 1%, or a deviation in the centre of gravity exceeding 0.02 m'.

The author of this paper commented on the compliance options set out above, thus -

Option 1 – meets the current regulations, but it is not a practical operational restriction for many, if not most, tankers.

Option 2 – meets the current regulations, but the practical reliance on gaining these voyage specific approvals on a timely basis may be a burden to both the operator and to national administration and may limit operational flexibility.

Option 3 – meets the current regulations and many ships are currently operating effectively and safely using this method. For this type of system, the limiting KG (or required GM) curves versus draft are pre-developed and pre-approved and typically would be added to

both the Stability Booklet and the loading computer. This would insure compliance with both the damage stability and intact stability requirements.

However, in practice these curves are complicated and expensive to produce and also have other application and enforcement concerns as noted in MSC 82/18/2, 'because of the need to consider all possible loading and damage combinations and any associated limiting provisions such as tank filling ratios. The resulting stability books may be complex and not easily applied by ships' officers and port state control inspectors'.

For these reasons Herbert-ABS said that in general, it did not recommend this approach.

Option 4 - The only practical solution is to fit an approved damage stability computer program on all tankers.

Herbert-ABS said that it agreed and believed that Option 4 provided a solution that will make it easy to demonstrate compliance with the damage stability requirements to the Port State authorities for any cargo, or ballast distribution.

With Option 4, the use of an approved computer program to verify that the nonstandard loading condition, complies with the damage stability requirements, can be readily applied to new ship loading computers, or implemented as an upgrade to existing loading computer programs.

Loading computer programs with this feature are generally referred to as 'IACS Type 3 Loading Instruments', as specified in IACS URL 5 (applicable for newbuildings since July 2005), which define Type 3 as 'software calculating intact stability and damage stability by direct application of preprogrammed damage cases for each loading condition'.

Herbert-ABS's CargoMax loading computer with the direct damage stability (DDS) module fully meets the requirements of IACS URL 5, Type 3, for any type of tanker. It can demonstrate compliance with the damage stability requirements for any of the relevant regulations from IMO and national administration for any type of loading, or ballast loading. And it can also be used to demonstrate this compliance to Port State inspectors or vetting surveyors.

The company has had approved CargoMax systems with the DDS option fitted on board ships since 1996. This feature has been approved by class societies ABS, DNV, LR, GL, NK and BV.

Herbert-ABS claimed to have to the first ABS Class approved IACS Type 3 system, the first LR Class type approval for a IACS Type 3 System and a type approval from DNV GL.

*This article was taken from a White paper on direct damage stability, published by Herbert-ABS Software Solutions.

Inséré le 05/09/15 HISTORIEK HISTORIQUE Enlevé le 05/10/15

A Brief History of Tanker Regulation (Part I)

1.1 The Rise of the Classification Society

The first successful, sea-going, bulk tanker, the Glückauf, wasn't built until 1886. By that time, a well developed system for regulating the design and construction of ships in

international trade was already in place. Intriguingly, this system was almost entirely non-governmental. The fact is that national governments could not effectively regulate ships in international trade if they wanted to. Their writ stopped a mile or two off their own coast. In most cases, their interest stopped about the same distance off-shore, as long as their own nationals were not at risk.

But there was one group that had a strong self-interest in the condition of a ship. And that was the underwriters. Given the inherent risks in international maritime trade, especially in the 19th century and earlier, the development of a mechanism for sharing those risks was inevitable. In the 17th century Great Britain began to rule the seas. British ships started trading to all parts of the world. London was the center of this activity.

London merchants, shipowners, and captains took to hanging around Edward Lloyds' coffee house to gossip and make deals including sharing the risks and rewards of individual voyages. This became known as underwriting after the practice of signing ones name to the bottom of a document pledging to make good a portion of the losses if the ship didn't make it in return for a portion of the profits.

It did not take long to realize that the underwriters needed a way of assessing the quality of the ships that they were being asked to insure. In 1760, the Register Society was formed to publish an annual register of ships.1 This publication attempted to classify the condition of the ship's hull and equipment. The hull was rated "A", "E", "I", or "O",. (I have no idea why vowels were used.) The equipment was rated "1", "2",or "3", whence the expression "A1" for first or highest class. The Register Society was made up of leading underwriters. In 1781, there is the first mention of surveyors or ship inspectors. Martin cites a slip appointing a Mr. Stupart as the Register Society's surveyor for London and resolving "that the expense of Mr. Stupart's surveys be paid by the society". [61, page 332] Other surveyors were hired by the underwriters in the "out ports".

The purpose of this system was not to create safe, reliable ships. It was to evaluate risk. Despite the commercials, insurance companies are not in the business of reducing risk. A zero risk world would put them out of business. They love risk; they just want to be sure of the odds, so they can set the premia profitably. Indirectly, the system can put upward pressures on ship standards since on average a better ship will pay a lower premium. But that's a by-product, not the purpose.

Nonetheless, UK shipowners found this emerging system unacceptably stringent. In 1799, they countered with their own publication, "The New Register Book of Shipping", which quickly became known as the shipowners' book. The old register became known as the underwriters book. The format of the shipowners' book was similar to that of the original register, with the minor exception that almost all the ships were rated A1. Needless to say, the underwriters and shippers (merchants who require ships), ignored the shipowners' book.2

But the shipowners' book did siphon off publishing revenues at the same time that surveying expenses were rising sharply. Lloyds was forced to subsidize the Register. By 1820, the subsidy had risen to 500 pounds per annum and was the subject of alarmed correspondence among the underwriters. In 1823, there was a meeting between underwriters and shipowners, in which the owners, led by a John Marshall, argued that the Registry be placed under the joint superintendence of the owners and the underwriters, combining the revenues and expenses of the two books. The underwriters rejected this for obvious reasons. A Mr. Janson pointed out the push was "altogether a shipowners' question, got up by them, and intended solely for their advantage". But Marshall persisted, calling his group "the reform party of Lloyds", and eventually a committee of inquiry made up of eight underwriters and eight shipowners was formed. In 1826, they published a report recommending a much "enlarged and well-organized system of survey" hiring 34

surveyors at a total estimated cost of 13,700 pounds per year. The committee realized there was no way this could be paid for by revenues from selling the register book; but left the payment issue to "a general meeting, to whose wisdom they refer it" .

But the general meeting and several annual meetings after this were inconclusive. The UK government declined to support the proposed survey system. It was up to Thomas Chapman to point out the obvious source of the revenue needed: the shipowners. In 1834, under Chapman's forceful direction "Lloyds Register of British and Foreign Shipping" was formed. The bulk of the revenue was to come from survey fees charged the shipowner. To counter the underwriters' concerns about the obvious conflict of interest, Chapman set up a central committee, essentially half of which would be elected by underwriters and half by shipowners. This committee was to set rules that the surveyors had to follow, and confirm the individual classifications. At this point, Lloyds was no longer a publisher but a Classification Society, classifying ships for the shipowners as a service. The shipowner became quite literally 'the Client'.

Similar developments were taking place in the other major maritime nations. In a uniquely American development, there were two competing registers in the USA in the 1850's. One of these outfits eventually became dominant and is now called the American Bureau of Shipping.

It didn't take long for enterprising individuals to realize there was money to be made in classifying ships. Sometime in the 1860's Charles Bal set up a private for profit service which he immodestly called Bureau Veritas. And it wasn't long after that that Lloyds began complaining about the competition. In testifying before the Royal Commission on Unseaworthy Ships in 1873s, the secretary of Lloyds Register is remarkably candid: Up to within five or six years, we classed nearly the whole of the ships that were built in the colonies; but the Bureau Veritas stepped in, and when they found that we made concessions, they gave further concessions; for instance, if we gave a vessel an eight years' class, they would give it nine; and if we gave it ten, they would give it eleven. That goes on till it brings into existence an inferior class of ships to what would otherwise be produced.

The Classification Society system was critically flawed from the start.

In any event, the safety standards on-board ships stayed appallingly low. It was not until 1876 that Samuel Plimsoll's book "Our Seamen" shocked the British into passing the Unseaworthy Ships Bill which mandated minimal loading restrictions. Plimsoll was rewarded with numerous law-suits from outraged shipowners.3 Plimsoll himself pointed out the downside of insurance.

The ability of shipowners to insure themselves against the risks they take not only with their property, but with other peoples' lives, is itself the greatest threat to the safe operation of ships. Plimsoll may have been crazy; but he was no dummy. In most of the casualties we will study in this book, the owners only loss was a small deductible. In many cases, the ship was insured for more than her market value. The owner came out ahead.4

To the extent that the Classification Society system worked, despite the conflict inherent in the regulatee paying the regulator, it was because, in most major maritime nations, a single Classification Society emerged. The practices of each national insurance market, often abetted by government regulation/subsidies, pretty much limited shipowners to that Flag's Classification Society. Each Classification Society or Class had a practical monopoly on ships of its Flag.5 This limited the owners' wiggle room.

In the late 1800's, the Classification Societies extended their services to new construction. By this time, the practice of financing ships via bank mortgages had developed, and the banks needed some sort of assurance with respect to the quality of their collateral. Each Society gradually developed its standards of good shipbuilding practice into its Class Rules

for construction and offered their services in the inspection of ships under construction. Interestingly, the shipyards, not the shipowners, are charged for the pre-delivery surveys and inspections, extending the vendor/client relationship between regulator and regulatee to the ship's pre-delivery life.

Figure 2.1: Glückauf stranded on Fire Island, 1893. No modern tanker would still be intact in this situation. Source: Long Island Maritime Museum.

The Gl□uckauf inherited the Class system. In fact, through 1967, there was almost no difference between tanker regulation and the regulation of any other ships.6

1.2 Pre-World War I

Prior to World War I, the tanker industry was the province of the oil companies. Almost all tankers were built by an oil company to move its own oil. In the 1880's, outside of Russia, there was only one oil company that counted and that was the Standard Oil Trust. Standard was moving kerosene from the US East Coast to Europe and to Asia. Most of this oil was moving in barrels and tins, but there were some experiments with carrying oil in bulk, mainly by Standard's European subsidiaries. Most of these ships, usually hybrid sailing ships, or conversions of conventional ships, were failures.

But in 1886, the German subsidiary of Standard, bought a Swan designed, Newcastle built ship, and called it the Glückauf. The Glückauf was the first successful seagoing tankship. She could carry almost 3000 tons of kerosene in 16 tanks arranged in two columns in the hull. Her machinery was aft. Except for the fact that she was coal fired, she was quite modern in concept.7 But Standard really didn't follow up on the Glückauf. Surprisingly Rockefeller who gained control of the American oil industry by monopolizing distribution from the Pennsylvania oil fields did not focus on ocean transportation.

This opened the door for Marcus Samuels. In 1883, the Rothchilds had a problem. They had built a railroad from the prolific oil fields around Baku on the Caspian to Batum on the Black Sea. They had the oil, they had the railroad, and, thanks to Standard, they had no customers.

Through a ship broker in London named Fred Lane, they were put in touch with Marcus Samuels. Samuel's father had been a shell merchant on the London docks, buying curios from returning sailors including sea shells and turning them into knickknacks which he sold to English ladies. He built this slender trade into a thriving export/import business between Asia and England. Marcus and his brother Samuel further expanded this operation in cooperation with the big British Far East trading houses.

Lane told Samuels about the Rothchild's problem. Lane knew the only possible outlet was Asia, and Samuels knew Asia. Together they made a trip to the Caspian where Samuels saw a bulk tanker. These ships were developed by Ludwig Nobel, the oil king of Baku, to move oil from Baku to Astrakhan, at the mouth of the Volga.8 Samuels knew how he was going to take on Standard Oil.

Standard Oil was supplying the Asian kerosene market with five gallon blue tins shipped from the US East Coast around the Cape of Good Hope in sailing ships. Bulk tankers were barred from the Suez Canal for safety reasons. (Of course, at the time, the few ocean going tankships that existed were all owned by Standard Oil or its fronts.) And there were not enough coal bunkering stations on the Cape route to support steam tankers.

Samuels turned to a marine engineer named Fortescue Flannery. Flannery came up with a tanker with carrying capacity or deadweight of 5010 tons.9 She had ten cargo tanks arranged in a 2 by 5 pattern. The tanks were fitted with a steam cleaning system, so she could load grain and sugar for the return trip. Her machinery was aft and, like the Nobel ships, she could burn oil. She also had separate non-cargo tanks that could be filled with sea water. The idea was that these tanks would be filled prior to transiting the Suez Canal and, if the ship grounded, these tanks would be pumped out, and the ship would refloat itself. (This is the exact opposite of the current use of double bottoms.) Samuels decided to name all his ships after sea shells. This first ship, launched in 1892, was called the Murex.

The Suez Canal Authority approved the Murex and her sisters. This was probably more the result of the British government's favoring an English enterprise than the technical merits of the Murex. But the Murex class proved to be good ships. The Murex herself was lost in World War I, torpedoed by a U-boat in 1916.

Samuels ploy was successful. Standard could not compete with the combination of the new transportation technology and being barred from the Canal. Very quickly Samuel's shiny red tins (made in Asia) supplanted Standard's rusty blue ones. Samuels named his operation Shell Transport and Trading Company.

Immediately, Standard started building tankships similar to the Murex. By 1900, Standard owned some 60 tankers mainly involved in the transAtlantic trade and Shell owned 15 deep sea tankers mostly trading Black Sea to Asia.

In the first decade of the 20th century, Royal Dutch (Indonesian oil) and Eagle (Mexican oil) joined Standard and Shell in building tankships. Isherwood developed the longitudinal framing system which allowed much larger ships and a simpler construction process. Eagle in particular was at the forefront in taking advantage of this technology, building a 20 ship fleet of 9,000 and 15,000 tonners just before World War I. And with the advent of electricity, the main cargo changed from kerosene to gasoline and fuel oil.

The regulatory structure was simple. The oil companies built tankers for their own use, fully expecting to own them their whole lives. They wanted reasonably reliable, safe

transportation service. Tankers were like refineries, just another investment. You would be stupid to build an unsafe or short-lived one.

I find the longevity of the pre-World War I tankers fascinating. We have pretty good data on the pre-WWI Standard Oil fleet. Throwing out ships that were lost at sea, usually due to explosions or grounding, or sunk during World War I, we end up with 27 tankers. The average life of these ships was 36 years. Nine lived to be over 40; one lived to 50. The last of these ships was scrapped in 1962. The numbers would have been better if five of these pre-World War I ships had not been sunk in World War II.

The oil companies quickly amassed tankship experience, quietly corrected their mistakes, and moved oil. The Classification Societies played a negligible role. The oil companies did not need customers for their tankers, nor did they really need insurance. They knew far more about tankships than the Class surveyors. They did not need the Classification Societies.

1.3 World War I thru World War II

The period between the wars saw the emergence of the independent tanker owner. An independent tanker owner has no oil of his own to move. Rather he relies on renting or chartering his ship to an oil company or oil trader which requires tankship services. The oil company who rents the ship is called the charterer.

Even before World War I, the nearly monolithic nature of the oil business was changing rapidly. It wasn't just the break up of Standard Oil in 1911 into a pride of operationally different companies. More important was the emergence of the Texas and Oklahoma oil fields. Standard was slow to exploit this new production and new companies like Gulf Oil and Texaco were not. The main advantage that the newcomers had was that it was cheaper to transport this oil by tanker to the East Coast than by the spidery pipeline network that Standard was pushing thru the Midwest. Tanker demand further blossomed with the development of Mexican and then Venezuelan production.

In such a rapidly changing situation, it was inevitable that from time to time an oil company would find itself short of transportation capacity. Prior to World War I, such a company would either have to make a deal with an unhelpful competitor or put the excess cargo on general cargo ship in tins, an extremely expensive alternative. Naturally, there were some sharp eyed individuals ready to exploit this situation. As early as 1913, Wilhemsen, a Norwegian shipowner, started building tankers. By the end of WWI, Wilhemsen had ten tankships. Since tankers were in very short supply during the war, it was an extremely lucrative investment.

It was The Great War that really put the independent tanker owner in business. In 1917, England and France came perilously close to running out of oil. The resumption of the unrestricted submarine campaign by Germany on February 1st was a strategic blunder. It brought the US into the war on April 6th. But it was a tactical success. And the primary target was tankers. By May 1917, the Admiralty was down to a three month's supply of fuel. In July 1917, the American ambassador wrote Washington "The Germans are succeeding. They have lately sunk so many fuel oil ships, that this country may very soon be in a perilous condition —— even the Grand Fleet may not have enough fuel." On December 15th, Clemenceau begged Wilson for more tankers pointing out the obvious "gasoline is as vital as blood in the coming battles... a failure in the supply of gasoline would cause the immediate paralysis of our armies."

Wilson responded most vigorously. The War Shipping Board was set up with draconian powers and the unheard amount of 1.3 billion dollars. The board commandeered all American ships, and all ships under construction regardless of nationality. It took over all the US yards and built from scratch the largest yard in the world at Hog Island, Philadelphia

(now the site of the Philly airport). In 1918, the Shipping Board built 533 ships totally 3.3 million tons. This monster could not be turned off overnight. In 1919 the Shipping Board churned out 1180 ships totaling 6.4 million tons, despite the fact that the war had ended in November, 1918. From 1916 to 1921, American yards produced 316 tankers totally 3.2 million deadweight tons. At the beginning of the war, the entire world tanker fleet was just over 2 million tons.

To put it politely, there was a great deal of waste. Almost everybody involved in this effort was well compensated. Even Hurley the head of the Shipping Board during most of this period admits the average cost of these vessels, nearly a million dollars, was three to four times as much as the prewar numbers. Since many of the ships were quite small, this is certainly conservative. Charges of corruption abounded but nothing ever came of them.

Tanker demand held up for a year or so after the war, but then a massive surplus developed. In 1923 some 800,000 tons of War Shipping Board tankers were laid up. These ships combined with a pliant bureaucracy were inviting targets for speculators. Consider the case of Daniel Ludwig, a young ex-rum runner and small time tug boat operator. In 1921, Ludwig got a hold of an old Standard Oil tanker called the Wico for $25,000 ($5,000 down). But he did not have five thousand dollars. So he found a guy named Tomlinson, to whom he sold 51% of the deal for the $5,000. Later he sold out to Tomlinson for $40,000.The most successful independent tanker owner ever was on his way.

Here's a little story about Ludwig to which we will refer later. In 1925, Ludwig picked up the 7400 ton Phoenix for $57,000 ($14,000 of his own money, bank loan for the rest) from the War Shipping Board. The Phoenix was a dry cargo ship converted to a tanker by putting vertical cylindrical tanks in each hold. In other words, she was a double hull. One day in Boston with the ship loaded with gasoline, the tanks which were riveted started leaking. Two crew working in the double hull space were overcome by the fumes. Ludwig, who was a hands on guy, started to go down to investigate. As he did the space exploded. Ludwig was blown thru one deck and badly injured his back. The two crew men were killed. Ludwig became a firm believer in welding.

If you knew the right people, the Shipping Board's terms could be extremely generous. You could buy a mothballed ship for $50,000 and the promise to spend say $100,000 on renovation. And to sweeten the deal you only had to pay 10% or $15,000 up front. And the Shipping Board's Construction Loan Committee would loan you as much as 75% of the renovation funds. This was not the kind of game that the oil companies were interested in playing. They had better things to do than small time manipulation of Shipping Board bureaucrats. So most of the surplus tonnage ended up in the hands of individuals.

An even more important impetus to independent tanker ownership was off-the-books financing. In the 1920's the oil business was booming. The oil companies needed capital to develop their discoveries, their refineries, and their retail distribution systems. They wanted to borrow as much money as possible as cheaply as possible. A key to this was the company's bond rating. The bond rating in turn was strongly influenced by the firm's debt/equity ratio. Oil company accountants discovered that, if instead of borrowing money to build their own ships, they gave an independent shipowner a 7 or 8 year lease, the independent could take that lease (known as a long term charter) to a bank, and borrow the money to build the ship against the charter. Under the accounting rules of the day, the oil company's obligation to pay the charter hire was not recognized as debt, so the company's bond rating was unaffected.10

Between the independents scooping up surplus tonnage, and long term charters, by the beginning of World War II, 39% of the world's tanker fleet was owned by independents. A full fledged market, centered in London, for exchanging tank ship services between oil

companies and independents had developed. But the oil companies were still very much in control.

From a regulatory point of view, the most important development of this period was the invention of the Flag of Convenience (FOC). When World War II started in Europe in 1939, Roosevelt was in a bind. FDR needed to supply England with the goods without which it would starve. The British flag fleet was being decimated by the U-boats. But FDR could not use American flag ships because in 1935 he had pushed through the Shipping Neutrality Act which forbade American flag ships from trading with belligerents. He had done this in a failed attempt to dissuade Mussolin from invading Ethiopia. He couldn't repeal the Shipping Neutrality Act. That would bring the isolationists down on him big time. The solution was to quietly allow American flag owners to reflag their ships to Panama." The carrot was freedom from US regulation and most importantly US crew costs, which had become more than double European. By 1939, 52 tankers totaling 700,000 tons were registered in Panama. A very important door had been opened.

1 This was almost certainly a formalization of a system that was already in place. "Ship Lists" existed at Lloyds long before this.

2 Shippers are not shipowners. Shippers are the shipowner's customers. In the tanker market, shippers are usually called charterers.

3 Here's a portrait of Plimsoll from Vanity Fair, 1873, in the wonderfully fulsome prose of the time.

He is not a clever man, he is a poor speaker and a feeble writer, but he has a big good heart, and with the untutored utterings of that he has stirred even the most indifferent. He has taken up a cause, not a popular cause nor a powerful one — only the cause of the British sailor who is sent to sea in rotten vessels in order that ship-owners may thrive. He has written a book about it — a book jumbled together in the fashion of an insane farrago, written without method and without art, but powerful and eloquent beyond any work that has appeared for years because it is the simple honest cry of a simple honest man. He has his reward. Any number of actions for libel have been commenced against him, he has been forced to apologize in the House of Commons, and were it not that he has found strong and passionate support among the public, he would be a lost man. His crime indeed is great. He has declared that there are men among the Merchants of England who prefer their own profits to the lives of their servants, and who habitually sacrifice their men to their money. He has moreover averred that the labouring classes are the more part a brave, high-souled, generous race who merit better treatment than to have their highest qualities made the instruments of their destruction. He tells of men who go to certain death rather than have their courage impugned, of men who freely share their meager crust with companions in poverty, and he claims sympathy and admiration for them although it is well-known that they are ill-washed, uncouth and rude of speech. Manifestly such a proceeding could only be the offspring of a distempered brain, and so it has gone forth that the sailors' champion is "mad on this question."

Moreover he is very fond of his wife, and continually mentions her as having assisted in his work, which is another proof of madness. Whereupon it is clear that no great attention need be paid to Plimsoll. He has secured the inquiry he asked for however, and in due course of time we shall learn from it that there never was a country where the humble capitalist was so enslaved by the arrogant labourer as this, nor a trade in which the labourer's arrogance was so strongly marked as in that which has to do with ships.

4 The BRAER is an extreme case. This poorly operated ship lost power, drifted onto the rocks in the Shetlands, and spilled 99 million liters. The owner's liability insurance paid

almost all the third party claims. In addition, the ship herself had an insured value of 12.7 million dollars. In addition, she had Loss of Hire insurance of 6.3 million. At the time, the market value of this ship was less than five million. Thanks to this big spill, the owner came out some 15 million dollars ahead.

5 The term "Classification Society" has far too many syllables so I will follow common practice in the industry and just say "Class". The weird capitalization is supposed to remind you that I am not using the word in the normal sense. For the same reason, I will capitalize "Flag" when I am talking about the country where the ship is registered, the "Flag State".

6 Tankers had their own chapter in the Class Rules, but so did every other specialized ship.

7 All normal cargo ships have double bottoms. On the Glückauf this was eliminated to avoid explosions resulting from cargo leaking into the double bottom space.

8 The Nobel ships, built in Sweden, also undoubtedly influenced the design of the Glückauf.

9 To be distinguished from the weight of the ship when empty which is called the lightweight. The Murex had a lightweight of about 2500 tons. The lightweight is a very important measure of how much steel the ship has. But henceforth when I refer to a ship as a 12,345 tonner, I mean the ship has a carrying capacity of 12,345 tons.

10 This was true despite the fact that the oil company often co-signed the mortgage, and usually paid the charter hire directly to the bank. Auditors depend on the companies they regulate in much the same manner as Classification Societies depend on ship owners. The difference is with auditors only money is at stake. With Class, it's lives and the environment.

11 The FOC ploy had been used before. In 1922, the United American Line was allowed to switch its passenger liners to Panamanian flag to avoid the ban on alcohol. In 1935, Esso transferred its Dantzig flag (already a sort of FOC) fleet to Panama to avoid German appropriation. Much earlier, slavers had switched flags to avoid anti-slavery laws. In fact, ships have been changing flags for momentary convenience since the dawn of maritime history. But this development was totally different in terms of scale, organization, and, as we shall see, impact on shipping regulation.

TO BE FOLLOWED

Inséré le 07/09/15 NIEUWS NOUVELLES Enlevé le 07/10/15

Oil Storage on Tankers – Legal Implications Tanker owners are happy.

VLCCs and Suezmaxes are generating strong cash flows and charterers are rushing to procure tonnage in an increasingly tight market. Commentators estimate that 40-50 older VLCCs have been commissioned on long-term charters to store crude. Are there any legal concerns with tankers being used for floating storage? Tanker owners see less risk in their tankers sitting stationary than sailing the high seas, but need to ask where they will anchor, for how long and whether this changes the applicable regulatory regime. If a 'storage tanker' is actually a floating storage unit (FSU), there is increased permitting required and a reduced ability to limit liability under the International Convention on Civil Liability for Oil Pollution Damage. While the Convention imposes strict liability for pollution damage on the Owner, it does allow for this liability to be limited, absent actual fault of the Owner. This reduction in liability does not apply to FSUs though.

Owners will need to know up front where the tanker will sit. This is for maintenance and staff planning even if it is not a concern to the insurers. There are obligations under Flag and Class for the Owner to fulfil, plus the requirements of the Hague or Hague-Visby Rules and the law of the relevant coastal states.

Looking through the Tankers Fixtures List of the Lloyd's List on the day of writing, 25 VLCCs and Suezmaxes were chartered, with two thirds of the VLCCs taken by Unipec for China with Reliance, oil majors and traders accounting for the next. At the recent Marine Money, London Ship Finance Forum, it was reported that Chinese shippers were shopping for several VLCCs on 2 year charters after concluding an agreement with Russian sellers desperate for cash as the sanctions take hold.

Where in the World…?

For the sovereign charterers, it makes sense to anchor close to home. The three big risks facing tankers in parts of Asia are piracy, weather and terrorism. Owners have the technology and systems to look out for all three but may face reduced control so far from port. Good intelligence is given by the live IMB Piracy and Armed Robbery Map and there may be metocean data available for the area. It is this which will inform the tanker requirements, from global strength of the hull to structural design of both hull and topsides to withstand fatigue cracks. If there is a disaster, the Owner will be fully liable for a vessel failure which results from the strain of standing too long at sea. Of concern is not only the financial liability, but also the environmental damage that will ensue and the potential for loss of life.

Wherever located, the tankers will need space to move in strong winds and currents. With almost all tankers being double-hulled now, they are not as stable in strong currents. Movement of the crude in ballast and cargo tanks can cause the tanker to sway suddenly and, in addition, there may be leakage from the inner layer.

Other seas are off limits as they are Special Areas listed in MARPOL Annex 1 or are part of the seven main transit 'chokepoints' for crude oil. These are obvious targets for pirates and terrorists, as well as the risk of collisions and spills. Some charterers choose much quieter locations as we saw from recent attempts to work around Iranian sanctions. The 'storage tankers' were well hidden in the South China Sea. Not to the extent of the United Kalavryta which disappeared from radar in the Gulf of Mexico for three days in Summer 2014 when the transponder was turned off (to help it hide from a legal arrest). It sat completely invisible with a million barrels of crude even from informed Texan coastguards.

The Charter allocation of duties

So are Owners using their negotiating strength to pass the additional vessel and environmental risks to the charterers? This still leaves the Owner with the scheduling burden of dry docking, SIRE inspections and Class surveys. Modification to the vessel and additional legal documentation may be required to ensure the vessel is in every way fit for long term storage and MARPOL compliant. Charter forms have not yet evolved to reflect the different consequences of a long anchorage at sea. Clause 4 of Shelltime 4 does not require a charterer to indicate how many voyages the tanker will undertake or whether it will be stationary. Relevant charter considerations remain:

The continuing duty to employ the tanker at safe ports and within trading limits. The Owner may object to instructions which take the vessel beyond trading limits and expose the vessel to increased risks. The liability for this will sit with the charterer even if the additional insurance premiums are borne by them, because of the safe port obligation

The Owners will usually define the capacity of the tanker to perform as contracted in 'good

weather'. It must still be capable of satisfying the Vessel requirements set out in the charter and be in every way fit for the service contracted

The nature and extent of the Owner's obligation to maintain depends on the exact wording agreed by the parties to the charter. Additional attention is required if the tanker is to sit in warm seas as the marine growth will undermine performance of the vessel Due diligence and reasonable care in cleaning the hold and tanks will be both an express and implied obligation of the Owner. The Shoko Maru explosion was caused by a crew member cleaning paint off the deck when a little crude was remaining Responsibility for cargo stowage frequently sits with the Owner but the charterer may accept this liability to obtain its choice of vessel and location. The Oil Majors (led by Shell) who are seen chartering the most VLCCs, perhaps for storage, are more amenable to this Worst case.

If the tanker becomes damaged or new regulations are adopted which impact on the ability of the tanker to continue as a 'storage tanker', this may be a 'frustrating' event (under English law) and may mean that any advance hire paid will be repayable by the Owner. A claim to the insurer for 'lay-up' will not be possible because the tanker has been carrying crude. And if there is an explosion, the Owner will look first to the insurance taken out in accordance with the International Convention on Civil Liability for Oil Pollution Damage. This is an amount equal to the Owner's total prescribed liability according to the tanker's gross tonnage. Even the amount applicable to VLCCs of up to 320,000 GT will pale in comparison with the likely third party claims though. In the haste to sign up another charterer and dust off another underutilized VLCC, Owners will be asking where and for how long the tanker will be a storage unit and how the Owner will reconcile that with its international legal and environmental obligations.

Source: Clyde & Co.

Inséré le 09/09/15 Dossier Enlevé le 09/10/15

Are we over administered?

The IMO is to be applauded for publishing the findings and conclusions of its first ever public consultation on the perceived burdens of administration.

The over-burdening of shipping folk was thought caused by the slew of mandatory IMO instruments, ie, conventions, codes and other instruments that have appeared and keep appearing on a regular basis.

In order to encourage the widest possible participation by everyone with an interest in, or relevant knowledge of, or work experience with IMO regulations, the consultation was launched under the banner 'Have your say!' on a dedicated web page.

The web page was active between May and October 2013 and responses could be given either on behalf of an organisation (shipping company, etc) or in a personal capacity.

All responses were processed and analysed by a steering group supported by the IMO secretariat. This steering group was established by IMO's Council and its tasks were to review responses from the consultation and to develop recommendations.

The IMO's main objective was to identify those administrative requirements in mandatory instruments perceived as 'unnecessary, disproportionate, or obsolete' which may hinder effective regulatory compliance, making it more complex and difficult, with implications for daily shipping operations efficiency.

In its review, the IMO said that it was very encouraging that many seafarers took part in the consultation as some 60% of the responses came from Masters, senior officers and other seafarers.

The analysis of their feedback, together with that of other respondents, was conducted to establish whether administrative requirements were thought problematic, or not, by an individual respondent (eg, a senior ship's officer), by a particular group (ships' crews), or by a variety of groups (ships' crews and shipping companies).

A perhaps surprising major finding was that the majority of administrative requirements addressed in the consultation process, 351 out of the total of 563, or some 66%, were not thought to be individually burdensome by any of the respondents, the IMO said.

One respondent said the voluminous paper work came from charterers, shipmanagement companies, P&I Clubs and port agencies, stating that administrative burdens emanating from IMO instruments were "the very minimum" by comparison.

However, even when individual administrative requirements were justified, their combined volume caused ships' crews to spend considerable time on bureaucratic tasks, rather than actually operate the ship, which might compromise safety.

Controlling control

Similarly, to a large extent, inspectors focused on verifying conformity with the correct procedures and establishing that the necessary check lists, reports and other paperwork, have been produced to prove that the procedures were followed correctly. An inspection thereby becomes 'control of control', with a tendency to evaluate the quality of the oversight system rather than the quality of the ship and the crew.

The IMO came to the conclusion that the nature of the listed requirements and the stakeholder types involved provided a rather diverse picture that cautioned against drawing firm conclusions.

Calls were made for urgent change, for instance, by working with 'intelligent' databases on websites with secure access in order to rationalise paperwork.

This was indicative of a new, IT-savvy generation seriously questioning the necessity of keeping multiple records covering the same event, or subject matter and asking why inspectors seemingly spend more time pouring over a ship's certificates than physically looking over the ship.

It was instead recommended that certificates could be posted on a website with access provided to accredited authorities, or, according to one stakeholder, "a Facebook for ships", with all certificates available for observation.

As another respondent put it, the tendency to "smother everything we do with paper" is also a result of a blame orientated and litigious culture, encouraging everybody to increase the paperwork as a means to demonstrate that everything has been done to prevent mistakes or mishaps and thus to avoid legal liability – by pointing the blame elsewhere.

Significantly, it was noted that while the majority of the 182 administrative requirements thought burdensome were still necessary, proportionate and relevant, it was often the accumulation of requirements that represented a burden and this was an important issue IMO needed to address.

After hours of debate, the steering group was able to adopt recommendations to the Council by consensus, which addressed a wide variety of matters. For instance, it was concluded that the procedures perceived as burdensome – some 24% – could be reduced by using some form of electronic reporting, or notification.

Keen to be seen as keeping up with the ever changing world we live in, the IMO has produced an infographic listing the full recommendations made following this revolutionary questionnaire, which can be found on its website.

TankerOperators

Inséré le 11/09/15 BOEKEN BOOKS LIVRES Enlevé le 11/10/15

"Zes jaren in Suriname"

Bij Walburg Pers verscheen onlangs 'Zes jaren in Suriname. August Kappler. Een Duitser in Suriname 1836-1842'. Moderne vertaling door Michaël Ietswaart. '

De weelderige natuur van de tropen vertoonde zich in al haar rijkdom aan ons. Hoe mooi en bekoorlijk kwam mij dit land voor! In de winter hadden wij de eentonige duinen van Holland verlaten en nu bevonden wij ons in het land waar het altijd zomer is. Nooit zal ik het moment vergeten waarop ik voor het eerst voet aan wal zette in dit land!' Zo beschrijft August Kappler (1815-1887) zijn eerste kennismaking met Suriname. Kappler was een Duitser die het saaie bestaan van leerling in een specerijenwinkel in Duitsland vaarwel had gezegd op zoek naar een avontuurlijk leven elders. Bijna bij toeval komt hij als jonge man van negentien jaar terecht bij de koloniale troepen bestemd voor Suriname. Hij verpandt zijn hart aan dit land waar hij in totaal 43 jaar woont. Met een vaak onderkoelde humor, die men misschien niet direct verwacht van een Duitser, beschrijft hij het land en zijn inwoners. Kappler is de insider bij uitstek die als geen ander open en eerlijk schrijft over Suriname in de 19de eeuw. Dit boek beschrijft zijn eerste periode in militaire dienst in Suriname en geeft prachtige beelden van het leven in Paramaribo, het bestaan op de militaire posten en zijn veelvuldige contacten met de indianen, bosnegers en plantagehouders. Beelden die soms niet zouden misstaan op een schilderij van Jan Steen. "Zes jaren in Suriname" (ISBN 978-90-5730-301-2) telt 255 pagina's, werd als softback uitgegeven, en kost 19,95 euro. Aankopen kan via de boekhandel of rechtstreeks bij Uitgeversmaatschappij Walburg Pers, Postbus 4159, 7200BD Zutphen. Tel. +32(0)575.510522, Fax +31(0)575.542289. . In België wordt het boek verdeeld door Agora Uitgeverscentrum, Aalst/Erembodegem. Tel. 0032(0)53.78.87.00, Fax 0032(0)53.78.26.91, www.boekenbank.be, E-mail: admin@agorabooks.com.

Inséré le 11/09/15 NIEUWS NOUVELLES Enlevé le 11/10/15

Marc Saverys wil CMB van de beurs halen

Marc Saverys lanceert een overnamebod op de aandelen van de scheepvaartgroep Compagnie Maritime Belge (CMB) die hij nog niet in zijn bezit heeft. De bedoeling is CMB van de beurs te halen, omdat de beursnotering "een handicap is geworden voor de verdere ontwikkeling en de langetermijndoelstellingen van CMB in snel veranderende scheepvaartmarkten", klinkt het in een persbericht.

Marc Saverys heeft via zijn holdingvennootschap Saverco en met Saverco verbonden personen al 50,80 procent van de aandelen van CMB in handen. Hij lanceert nu een "vrijwillig en voorwaardelijk openbaar overnamebod" van **16,20 euro per aandeel** op de

overige aandelen. Dat is een vijfde meer dan de slotkoers van het aandeel CMB gisteren op de beurs van Brussel, klinkt het.

Na het overnamebod, dat door de raad van bestuur gesteund wordt, zal er een uitkoopbod volgen. Maar zelfs indien de voorwaarden voor het uitkoopbod niet vervuld zouden zijn, "behoudt Saverco zich het recht voor om te verzoeken tot de schrapping van de notering".

Handicap

"De beursnotering met zijn beperkte liquiditeit is vandaag een handicap geworden voor de verdere ontwikkeling en de langetermijndoelstellingen van CMB in snel veranderende scheepvaartmarkten", stelt Marc Saverys, voorzitter van Saverco, in het persbericht. "Door de privatisering van het bedrijf, zal CMB efficiënter de concurrentie kunnen aangaan met nieuwe spelers uit Azië en de Verenigde Staten door zich onder andere toe te spitsen op consolidatie en specialisatie in de markten waarin het bedrijf actief is. Daarenboven zal CMB flexibeler toegang hebben tot alternatieve financieringsinstrumenten."

Saverco heeft ook een belang (10,69 procent, volgens de website) in de olietankerrederij Euronav.

Inséré le 13/09/15 DOSSIER Enlevé le 13/10/15

Shorter bulb for operational speed and draught

Sea waves have a significant impact on the vessels' fuel consumption and are therefore one of the ship designers' biggest challenges.*

When a vessel is sailing, waves are generated around the vessel due to its speed. This affects fuel consumption, as the vessel uses energy on generating the waves and because the waves increase the propulsion resistance of the vessel.

Not even the most skilled ship designers can prevent wave generation. But by altering the vessel's design and further optimising it, it is possible to minimise the braking effect of wave generation against the vessel.

NORDEN's two new Handysize product tankers, Nord Geranium and Nord Gardenia built by Guangzhou Shipyard International (GSI) in China, both have an optimised design with regard to counteracting the effect of wave generation.

Compared to the eight Handysize product tankers, which the southern Chinese yard delivered to NORDEN between 2006-2009, the latest two are both fitted with a 3-4 m shorter nose, or bulb. Not because there was something wrong with the design when the original vessels were constructed, but ship designers keep getting better at optimising vessel design.

The bulb plays a central role when it comes to counteracting the effect of the vessel's wave generation as the bulb generates its own wave system around the vessel.

Wave systems offset each other "The observant reader will probably now think that if one wave system creates resistance, then two wave systems must create double as much resistance. But because the bulb's wave system is generated suitably far in front of the hull, the bulb's wave system with its crest and trough will be in opposition to the hull's wave system.

"This means that the trough in the bulb's wave system comes where the crest in the hull's wave system is generated. Thereby, the two wave systems offset each other – more or less. At any rate, the bulb's wave system reduces the braking effect of the hull's wave system significantly. The extent of the reducing effect of the the bulb's wave system depends on how well the design of the bulb fits the vessel's actual speed and draught," explained NORDEN's senior newbuilding manager, Alex Hjortnæs.

Right steaming

In recent years, vessels – drycargo, tanker and container vessels – have slowed down for commercial reasons. NORDEN calls this right steaming and it means that the bulb has to be shorter than before to be able to create a wave system, which is in opposition to that generated by the hull. With a bulb of the same length as earlier, the trough of the bulb's wave system will come too far ahead to meet the crest of the vessel's wave system when right steaming.

When GIS built NORDEN's eight Handysize product tankers, it was very common that the bulb's length and design in general was optimised in accordance with the service speed and design draught – ie the speed and draught which the yard's designers considered most likely.

But it is one thing what the yard designers consider to be likely speed and draught once the vessels are in operation and another thing is the actual speed and draught of the vessels in operation.

"In realisation that many vessels only rarely sail with exactly the speed and exactly the draught which the yards' designers have determined – typically the vessels sail at lower speed and less draught – the yards have started to optimise the bulb and the hull in general to a so-called operating profile.

"It is a combination of the speed and draught, etc representative of the market in which the vessel will be operating in and which in contrast to the old service speed and design draught, reflects practice and thus the real world," said Hjortnæs.

Nord Geranium is in operation and Nord Gardenia will follow shortly. "We are now looking forward to being able to measure the effect of the shortened bulb on the vessels' fuel consumption," Hjortnæs concluded.

*This article was taken from NORDEN News.

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

A Brief History of Tanker Regulation (Part II)

1.4 Flags of Convenience

World War II changed everything. Few industries were affected more drastically by World War II than the tanker business. As soon as the war ended a whole series of massive changes began.

The oil companies' tanker fleets had been commandeered and decimated. But the companies weren't worried. The conventional wisdom held that there would be a worldwide slump after the war. With all the ships built during the war, a massive glut was inevitable. And indeed in 1946 a large number of tankers were laid up and mothballed. You could buy

a two year old 18,000 ton tanker for less than a million dollars. By this time the disgraced Shipping Board had been replaced by the US Maritime Commission. But it was just a new name for the same game.

A few individuals saw this as an opportunity. Onassis, Niarchos, and others snapped up the surplus tankers and waited. They did not have to wait long. The world did not go into a slump after the war. Europe with the help of the Marshall Plan rebuilt rapidly. Europe needed oil and the only available oil was across the Atlantic in Texas and Venezuela. In 1947, a shortage of in-service tankers developed. The oil companies were forced to deal with the independents. Tanker rates tripled almost overnight. The speculators recouped their investment and more in a single voyage.

Daniel Ludwig, that remarkable combination of vision and street smarts, had a different idea. He had turned a nothing shipyard in Norfolk into a goldmine with lucrative wartime contracts. His concept was to take the block construction method developed in the USA during the war to the intact but empty yards in Japan and blow away the Europeans and the rest of the world with production and operating economies. The economies of size were obvious to Ludwig. He immediately started building 30,000 ton ships. Others followed and the race was on.

With the oil companies in charge, tankship size had changed little since World War I. Esso built a couple of 22,000 tonners in 1921. These remained the largest tankers ever built for over 25 years. The workhorse tankers of World War II, the T-2 and T-3, had a deadweight of 16,000 and 18,000 tons respectively. But in 1948, Ludwig launched the first of the ill-fated, 30,000 ton Bulkpetrol class.12 In 1952, he delivered his first ship from the old Imperial Navy yard in Kure; the Petrokure was a 38,000 tonner. Onassis followed with a 45,000 tonner in the same year. Ludwig up the ante to 56,000 tons in 1955 with the strange, innovative, and short-lived SINCLAIR PETROLORE.13 The 85,000 ton Universe Leader followed in 1956, just in time for the first Suez Canal closure. In ten years, tanker size had quadrupled.

And it just kept going. In 1958, Ludwig breached the 100,000 ton barrier with the Universe Apollo. In 1964, a 63,000 ton tanker built in 1959 was jumboized — expanded by inserting a new middle section — to a 120,000 tonner. Her name was the Torrey Canyon. In 1966, the 206,000 ton Idemitsu Maru was delivered. In twenty years, the independents had increased tanker size by a factor of ten.

The independents brought more than a willingness to take risks, both market and technical. They brought an ability to think outside the box. Ludwig was unhappy with the cost and quality of American crews. In the Cayman Islands, he found what he wanted: terrific seamen, dirt cheap. The independents were footloose and they weren't particularly interested in paying taxes. That included the tonnage taxes and other fees charged by the traditional maritime powers. They jumped on FDR's Flag of Convenience, basically setting up their own flags, first in Panama, and then in Liberia and elsewhere. 14

It is important to note that the Panamanian and Liberian flags had the support of the US Government. The US military was convinced that it had to have an American merchant marine for support in time of war. But strongly unionized, featherbedding American crews cost two or three times that of hardworking non-American crews. It was obvious that American flag ships could not compete with foreign flag. The solution of allowing non-American crew was rejected by the unions. So the US government opted for quiet but strong support for FOC's which were deemed to be under effective US control.

It wasn't just the independents that used these flags. After World War II, almost all the major American oil companies' tankers were registered in Panama or Liberia. Not only did this allow them access to better, much cheaper crews, but there was no US tax until the foreign shipowning subsidiary dividended profits back to the parent.

For our purposes, by far the most important feature of these Flags of Convenience is that essentially all of the Flag State inspection duties were turned over to the Classification Societies. The Flag State appoints the ship's Class as its agent for inspection.

At the same time, the link between a major maritime Flag and a Classification Society was broken. A UK ship was Classed by Lloyds Register (LR). An American flag ship was Classed by American Bureau of Shipping (ABS). A Norwegian ship was Classed by Det Norske Veritas (DNV). And so on. That was understood. But if your ship is Liberian, which Class do you hire? The answer is: you shop for the best deal. Now the Classification Societies had to compete with each other for business. If a Class surveyor proved unreasonably inflexible, you complained to his boss; and, if that didn't work, you switched Class.15

Meanwhile, the independents flourished. The oil companies simply couldn't compete with these pirates. They were smarter, quicker, nimbler; and they didn't have to follow the same rules. In those days, the oil companies used to say their policy was to own 50% of their own requirements to move oil, lease another 30% of their tanker requirements on a 3 to 7 year basis (known as a term charter), and depend on spot charters (the rental of a tanker for an individual voyage) for the remaining 20%. But by 1959, less than one-third of all tanker tonnage was owned by oil companies.

The tanker market is extremely cyclic. The basic pattern is longish periods of slumps interspersed with short lived spikes during which the spot tanker rate can go through the roof. Every time the tanker market started to tighten up, the independents would get their orders for new ships in first. By the time a major oil company had approved a newbuilding program, the market would be back in slump and the oil company program would be cut back or canceled. By the mid 1960's three quarters of the world's tanker fleet were owned by independents.

Figure 2.2: Sinclair Petrolore: Self-Unloading Ore-Oil Carrier. Source: www.solentwaters.co.uk

1.5 Torrey Canyon and IMO

The halcyon days for the pirates started to come to an end on the morning of March 18th, 1967. On making landfall at the Scilly Isles off Lands End, England, the recently jumboized TORREY CANYON, bound for Milford Haven in Wales, found herself 20 miles east of her

intended course. The ship was fully loaded with 120,000 tons of cargo. The Captain needed to make the tide at Milford Haven. To save a little time, he decided to go through the gap between the Scillies and Seven Stones Reef, a senseless decision given his options. The tide was setting them to the east. They made a plotting error. In extremis, the autopilot was temporarily disengaged, delaying the final turn. By the time the Captain realized he was too close to Seven Stones on his starboard side, it was too late given the sluggish maneuverability of the ship. The ship and cargo were lost, and the world was awakened to the damage that could be caused by a large oil spill.

The TORREY CANYON generated a great deal of regulation. The 1969 CLC Convention produced a much stricter definition of the shipowner's spill liability and set up a system for compensating victims of pollution damage. The musically named Intervention Convention allowed coastal states to take early action against vessels which pose a threat to their shorelines. But from the point of view of the tankers themselves, the most important result of the The TORREY CANYON was the International Convention for the Prevention of Pollution from Ships, 1973, usually called MARPOL/73.

MARPOL/73 itself was nearly toothless. The only concrete regulation in MARPOL/73 was an intelligent limitation on tank size, which did not come into effect until 1977. Besides that MARPOL/73 doesn't say much, other than spills should be investigated and reported on by the Flag State.16 But a non-Class mechanism for the international regulation of tankers had been created.

MARPOL/73 was agreed to under the auspices of the International Maritime Organization or IMO. IMO is an offshoot of the United Nations. It is important to recognize that IMO itself has no regulatory power. It was created in 1948 "to provide machinery for the cooperation among governments" on maritime trade. The original name, Inter-Governmental Maritime Consultative Organization, says it all. IMO actually does little more than schedule meetings in which representatives of the various national governments, the member states, thrash out potential regulation. 17 This draft regulation is then voted on by each member state, and, when a sufficient number of the member states ratify the regulation, it is supposed to be enforced by all the member states. But a member state can opt out, as the USA chose to do in 1992 because it was unhappy with the IMO double hull rules. Or simply ignore the regulation. Under an amendment ratified in 1978 member states were supposed to provide dirty ballast reception facilities at many tanker load ports. Most did not. IMO has no enforcement power.

Much worse, IMO is built around the concept of the Flag State. A member country is a member of IMO by virtue of the ships that are registered under its Flag. Voting is based on the size of each country's fleet. This means the Marshall Islands has three times more voting power than the USA.18 By the time IMO became real, the Flag State had become a charade.

Nonetheless, any regulation that IMO adopts is effectively law for tanker owners. All it takes is one or two major Port States to enforce the regulation, and the tanker owners must comply.19 Otherwise, their ships are commercially crippled. The Port States are the real power in tanker regulation as we shall see when the USA unilaterally passed double hull regulation in 1990.

In short, the TORREY CANYON had no immediate impact on tanker design or operation. But the world had finally been alerted to the danger of a big spill, and a non-Class regulatory mechanism, albeit badly flawed, had been set up.

1.6 VLCC's and Inerting

As far as tanker owners were concerned, the important development of 1967 was not the TORREY CANYON, but the second closing of the Suez Canal in June as a result of the Six-

Day War. This sent the tanker market into a three year boom. The owners were becoming very rich, and building bigger and bigger ships. In 1966, the first ship over 200,000 tons deadweight was delivered. Since the press had started calling the 60,000 and 80,000 tonners built in the early 1960's "supertankers". No one knew what to call these new ships. For want of imagination, they became known as VLCC's (Very Large Crude Carriers)

These big ships had an unanticipated but critical problem. In the space of three weeks in December, 1969, three nearly new VLCC's had massive cargo tank explosions. In all three cases the ships were cleaning empty cargo tanks. Something was terribly wrong. 20

Cargo tank cleaning is accomplished by machines that look like and work like enormous lawn sprinklers. These gadgets shoot a revolving high pressure jet of sea water around the tank, in theory blasting the surfaces clean of oil. Two of the tankers involved, the MARPESSA and the MACTRA were Shell ships. The third was the brand new KONG HAAKON VII. The MARPESSA, on her maiden ballast leg, sank killing two crewmen. The MACTRA, Figure 2.4, and the KONG HAAKON VII, Figure 2.5, had a large portion of their main decks blown away but survived.

Shell instituted a crash research program and came to the conclusion that the high speed jets of water impinging on the steel surface of the tank were creating static electricity, in somewhat the same way that rain drops in a thunderstorm do. When enough static electric builds up, it produces a spark in space that is full of hydrocarbon vapor. The process is tank sized dependent and didn't make itself obvious until tanks grew to VLCC size.

It was clear that the old way would no longer work. The solution was cargo tank inerting. The exhaust or stack gas from a properly operated boiler contains 2 to 5% oxygen, as opposed to about 21% for normal air. If the tank atmosphere contains less than about 11% O2, then the mixture will not support combustion regardless of the hydrocarbon content. The idea was to take the boiler stack gas, run it through a scrubber, which is an oversized shower which cools the gas and removes most of the sulfur, and pipe this inert gas into the tanks.

Cargo tank inerting was not new. Tank inerting goes back at least to 1932 when the Sun Oil tanker BIDWELL had a tank cleaning explosion which killed 18.21 By 1933, Sun had developed the system and deployed it to all its fleet including the Bidwell. Inerting was a tremendous step forward in tankship safety — the single most important step of all time. Not only were cargo tank cleaning explosions eliminated on properly inerted tankers, but all sorts of other explosions as well. When a tanker loads petroleum or ballasts a cargo tank, the vapors in the tank are pushed out onto the area above the deck. If the tank is inerted, the mixture emerging from the tank is non-combustible and by the time the ambient air has increased the O2 level to a combustible level, the hydrocarbons will almost always be diluted to less than the flammable level.

If the tank is not inerted, then you have a real chance of an explosion such as the fire on the SANSINENA that killed nine people in Los Angeles in 1976.

Figure 2.4: Mactra deck after tank cleaning explosion. Two killed. Source: Auke Visser, supertankers.topcities.com

If an inerted tank is breached, there is a better chance of avoiding a fire than in a non-inerted tank, and a far better chance of confining any fire to the damaged tank. In 1979, the horribly corroded structure of the Total tanker, BETELGEUSE, failed as she was discharging at Bantry Bay in Ireland.She immediately exploded; 50 people were murdered.22 Inexcusably, ten years after the MARPESSA, this 121,000 ton tanker was not inerted. Eight months later, the VLCC ENERGY CONCENTRATION broke in two discharging at Rotterdam. She still had 115,000 tons of cargo on-board. But there was no fire and no casualties. The ENERGY CONCENTRATION was inerted.

Inerting saved many tankermen lives during the Iran-Iraq War. Here's a particularly dramatic example from Newton.

A typical [sic] attack on a tanker is recounted by Captain Bruce Ewen, master at the time of the 412,000 dwt World Petrobras which was bombed by Iraqi jets on 22 December 1987. At the time the tanker was providing floating storage off Iran's Larak Island in the northern part of the Strait of Hormuz. Two Russian made 500 lb bombs with parachute drogues attached dropped onto the maindeck during the attack by Mirage jets, which also hit two other tankers off the island.

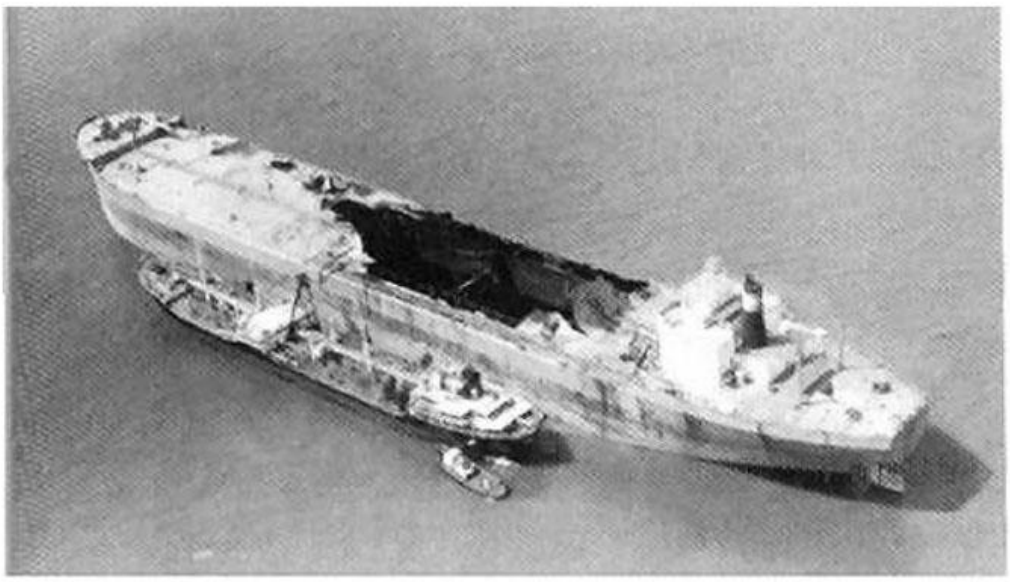


Figure 2.5: Kong Haakon deck after tank cleaning explosion. Obvious similarity to Mactra. Source: Auke Visser, supertankers.topcities.com

World Petrobras was at the time transferring oil from one tanker, Free Enterprise, into another, British Respect. "When the bombs struck," Ewen recalls, "the rubber hoses attaching us to the British Respect were set afire and a large amount of shrapnel from our deck fittings blew through the side of the British Respect. Since we were both inerted and had our inert gas plants running, an explosion was avoided. However, we needed to get British Respect away from us so we could get firefighting tugs alongside."

"We cut her aft ropes and her master went ahead on the engines and ran the forward ropes off the reels. When she parted the hoses, a large amount of oil was dumped into the water which caused a large fire and set the rubber fenders ablaze. Although this rendered our lifeboat and the liferaft on the port side beyond use, the current was fairly quick so the danger passed in a fairly short time."

The World Petrobras resumed operations 42 hours later.

Not all tankermen were so fortunate. 62 tankers and 250 tankermen were lost in The Tanker War. But there were over 500 attacks on defenceless tankers in the Iran-Iraq War. Without inerting, the toll would have been far higher. 23

The regulatory history of inerting is instructive. For nearly 35 years after the Bidwell, there was none. Until the 1960's, no other tanker owner followed Sun's example. But over time, Sun had noticed an interesting by-product of inerting, a drastic decrease in internal tank corrosion. In the very early 1960's, this phenomenon caught the attention of BP which was experiencing rapid corrosion in their ships carrying high sulfur Mid-east crudes. They developed their own varient of inerting and started deploying it to their fleet as a corrosion control measure.

In the 1970's, after the Mactra/Marpessa/Kong Harkon, some front-line owners began fitting inert gas systems voluntarily on their larger ships. But it was not until 1974 that the USCG required IGS, and then only on ships built after 1974 over 100,000 tons. This was extended down to 20,000 tons (with exceptions) after the Sansinena explosion in Los Angeles.

By the late 1970's most tankers larger than 100,000 tons were fitted with inert gas systems, but the regulations only applied to ships trading to the United States. Therefore, Total felt no need to fit inerting to the BETELGEUSE.

It wasn't until 1985 that IMO finally required inert gas systems on (almost) all crude tankers over 20,000 tons, and most product tankers over 40,000 tons. There has been some tightening since then. But as this is written, 75 years after the Bidwell, there are tankers the size of the Bidwell which have no requirement to be inerted.

In the late 70's and early 80's, one can make a strong argument that at least 139 lives were unnecessarily lost on non-inerted tankers. The Tromedy let us down big time here. The obvious question is: why was the regulatory system so slow to impose such an obvious requirement?

It was soon realized that seawater does not do a good job of cleaning oil, something any housewife could have told us. In most cases, you will get a much cleaner tank if instead of seawater you use high pressure jets of the crude oil itself. This is known as Crude Oil Washing or cow-ing, a process that was pioneered by BP. Cow-ing has three big advantages over sea water washing:

1. The tank almost always ends up cleaner.
2. You don't introduce corrosive salt water into the tank.
3. You don't have oily water to dispose of after the cleaning. Most tanker owners now only use seawater washing when a tank needs to be cleaned for inspection. On our ships, we found that even this was unnecessary and unproductive, and seawater washing was eliminated entirely.

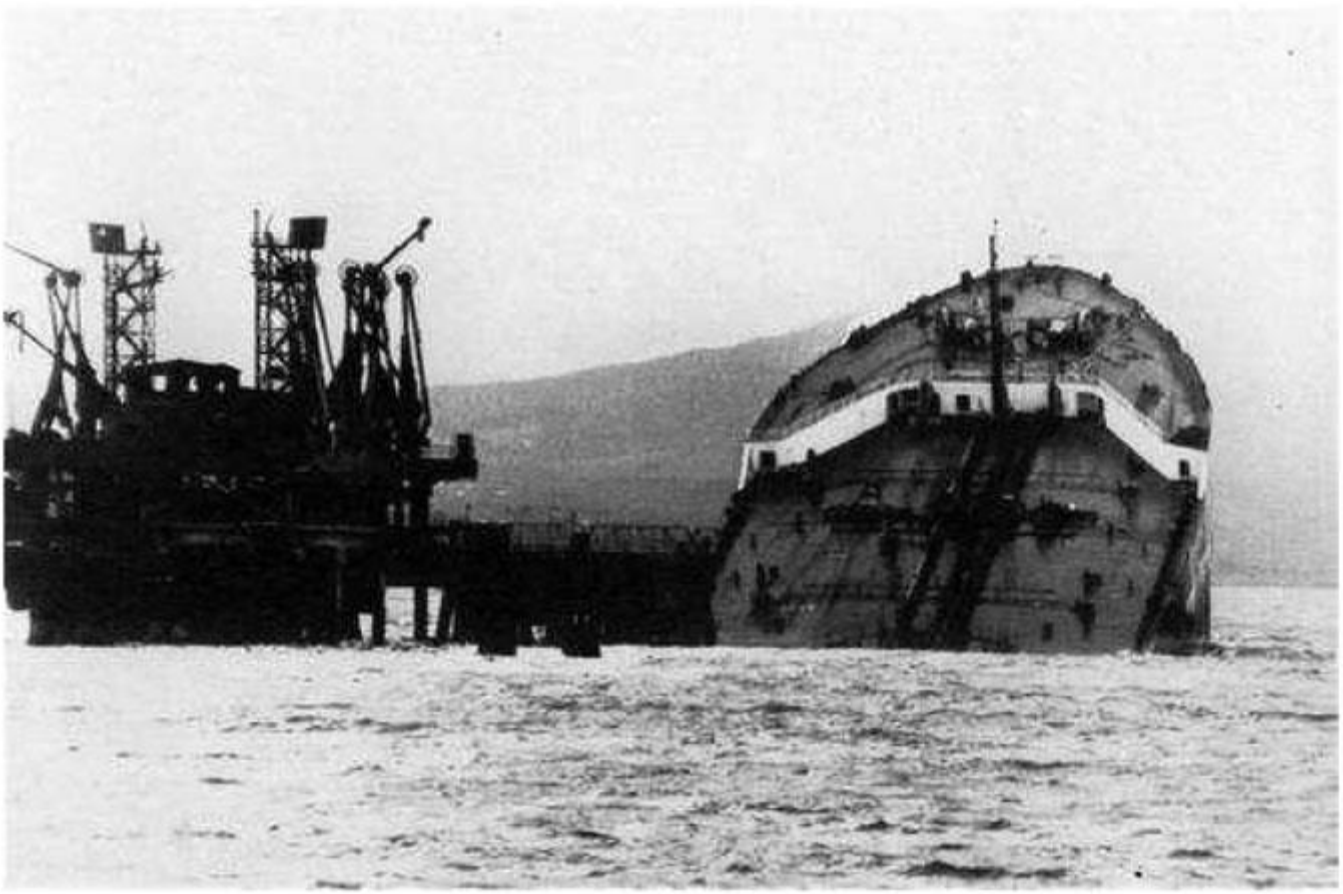


Figure 2.6: The Betelgeuse at Whiddy Island. Horribly corroded segregated ballast tanks. Uninerted. Fully Class Approved. 50 dead. Source: Auke Visser, supertankers.topcities.com

1.7 Boom, Bust, and the Argo Merchant

The early 1970's were heady years for tanker owners. Although the tanker fleet was expanding at 12-13% per year in the late 60's and very early 70's, tanker supply could not keep up with ton-mile demand growth. In 1973, VLCC rates skyrocketed. At the height of the boom, the Kong Haakon VII, refitted with a new deck, netted nine million dollars for a single 2.5 month voyage from the Persian Gulf to Northern Europe. That is, approximately one-half what it cost to build her four years earlier.

The 1973 boom produced an ordering frenzy. In one quarter, 75 million tons of new tankers were ordered. At the time, the entire tanker fleet afloat was about 150 million tons. The principle orderers were the major oil companies. They had watched the independents become fabulously rich with their aggressive newbuilding programs. This time, despite new tanker prices doubling and tripling, they were not going to be left out. Esso, Shell, Chevron each had forty or more very big tankers on order.

Many of these ships were much larger than a VLCC, as much as twice as large. The tanker industry's limited vocabulary had been exhausted. Tankers above about 350,000 tons became known as Ultra Large Crude Carriers or ULCC's.

Alas, on Yom Kippur, October, 10th, 1973, it all came to a crashing halt. The Yom Kippur War combined with a partial embargo, cut tanker demand at the same time that a flood of tonnage was coming out of the yards. Oil prices tripled to the unheard level of $10 per

barrel, depressing oil consumption growth. Tanker rates plummeted to levels which would barely pay the fuel cost of a voyage. Eighty million dollar ships went straight from the newbuilding yards to lay up.

And it just kept getting worse. In 1975, the Suez Canal reopened. In 1979 just as the market was starting to recover, the Iranian Revolution pushed oil prices to $30 sending the world economy into depression. Oil consumption actually contracted. It wasn't until the late 1980's that tankers became profitable again. The oil companies' massive investment in big tankers in 1973 turned out to be a colossal blunder. 24

The mid-70's were a quiet period in tanker regulation. But in hindsight there was one important development. On 15 December 1976, the 28,000 ton tanker ARGO MERCHANT stranded on Nantucket Shoals 29 miles SE of Nantucket. The ship was fully loaded with fuel oil, eventually broke up, and generated a 29 million liter spill. The navigational practices onboard were deplorable; the ship was under-manned; and the owner had failed to supply the ship with proper charts or maintain the navigational and other equipment. This was one putrid tanker. But the oil stayed offshore and the spill had little impact outside the United States.

The regulatory significance of the ARGO MERCHANT was that the US Coast Guard boarded the ship and took control of the salvage attempt despite the fact that the ship was in international waters. This was the first test of the Intervention Convention. Prior to the Intervention Convention which came into force in 1975, a port state official could only inspect a ship certificates –— not the ship itself – and then only in port state waters. The ARGO MERCHANT was the first real crack in the Flag States' (really Classification Societies') monopoly of tanker regulation.

12 Five of this class were built. Only the Bulkpetrol herself survived long enough to be scrapped. Three (AMPHILOS, KEo, and PACOEANN) broke in two in heavy weather killing at least 32 crew men and spilling about 90,000 tons in total. One, the GOLDEN DRAKE was lost to an explosion, probably structurally related. A disastrous record which has never been properly investigated. Best guess is that Ludwig's ambitions had run ahead of his grasp of welding technology.

13 The SINCLAIR PETROLORE, Figure 2.2, was truly unique; not only the biggest ship in the world but a self-unloading ore/oiler. The world has never seen anything like her before or since. In 1960, she exploded off Brazil spilling 60 million liters. This was the largest oil spill ever at the time by at least a factor of two. Most likely cause was cargo leaking into the double bottom.

14 Much later I made my own small contribution to meaningless fabric on the jackstaff by initiating the Marshall Islands flag in a failed attempt to obtain US Navy protection for our American owned ships in the Persian Gulf during the Iran-Iraq War.

15 One result of this competition was new, much weaker newbuilding rules. In July of 1960, Lloyds Register published a new set of rules. Not only were scantlings relaxed, but the restrictions on tank size were just about eliminated. The other Classification Societies quickly followed suit.

16 Flag State compliance with this requirement is spotty. Worse, most of the reports are kept secret. Only an IMO priesthood has the right to see the full reports. They are not subject to public review. An IMO sub-committee prepares a "public" summary of the reports, but even these summaries are kept on a password locked web page. Welcome to the strange, secretive world of IMO.

17 This is done through a series of IMO committees, made up of a disparate collection of Flag State appointed "experts". In many cases, the committee chair, the key drafter of the

regulation, is — you guessed it — a Classification Society employee. 18 Perhaps even more importantly, the flag states are IMO's paymaster. Contributions to the IMO budget depend primarily on the size of each member country's fleet. In 2003, Panama was responsible for 19.1% of IMO's income; the USA 3.6%. The IMO bureaucracy is always short of money. Upsetting major contributors to the budget is not good fund raising policy.

19 The Port State is the country where a ship loads or discharges.

20 Tank cleaning casualties were hardly new. There had been many such fires in the past, most recently SEVEN SKIES which killed four crew. But three such explosions in short order, two of which were Shell VLCC's, at least got Shell's attention.

21 Chevron (then Socal) had experimented with tank inerting as early as the mid-20's. For a more complete history of tankship inerting, see [28].

22 Total is a big French oil company, largely government owned. Can't blame the pirates for this one. The Irish investigation revealed that Total and the ship's Classification Society, Bureau Veritas, knew the ballast tanks were in despicable condition, but consciously decided not to do anything about it because Total intended to sell the ship. The word murdered is not used lightly.

23 The Bidwell herself was torpedoed in 1942 while loaded. The torpedo struck midships, burning oil was spilled on deck and killed the 2nd mate; but the fire did not spread to the undamaged tanks. The crew was able to put the fire out, and make port under the ship's own power. Sun Oil credits inerting for saving "many lives" on its ships during World War II, but we don't have any details.[22]. The US Navy used inerting (via nitrogen) on its carriers in World War II; the Japanese did not. Some authorities regard this as a critical factor in the Pacific War.

24 In the early/mid 1980's, my partners and I bought eight of these ships. We paid a total of 45 million dollars for ships that 7 or 8 years earlier had cost the oil companies over 500 million dollars. Four, built in Japan, were good tankers. Two were at best mediocre. Two were lemons. These last four were built in Europe.

To be followed

Inséré le 17/09/15 NIEUWS NOUVELLES Enlevé le 17/10/15

Exmar reports first half results, will establish vertically-intergrated LNG company

LNG: EXMAR will create a vertically-integrated LNG company with FLEX LNG and Geveran Trading to establish EXMAR LNG Ltd., keeping initially 65% of shares under its control. EXMAR will continue with the commercial, operational and technical management of the

fleet of the new entity. The transaction is on track to be finalized in the coming months as previously announced.

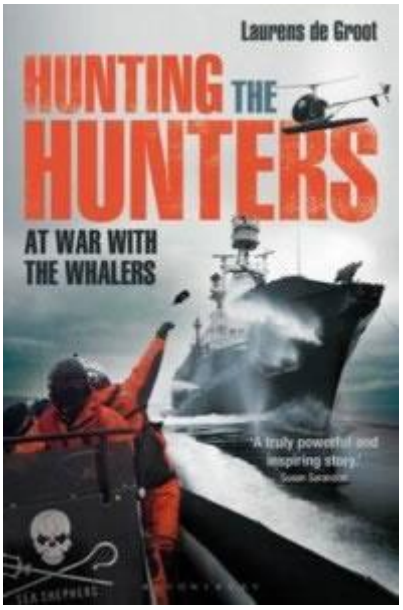
The pre-commissioning of CARIBBEAN FLNG is proceeding as planned for the third quarter of 2015 with delivery expected during the first quarter of 2016. EXMAR will receive first daily payments from PACIFIC RUBIALES ENERGY as of delivery as per the terms of the contract. Front-End Engineering and Design Study (FEED) have been completed for the Douglas Channel FLNG project in British Columbia, Canada with Final Investment Decision (FID) expected by the end of the year. EXMAR is developing several specific opportunities for deploying the second liquefaction barge on order for delivery in the course of 2018. EXMAR is pursuing engineering studies on its five other exclusive liquefaction agreements. All four of EXMAR's current operational FSRUs remain fully committed on long-term charter until between 2025 and 2034. Construction of EXMAR's 25,000m³ barge-based FSRU is proceeding for delivery within 2016, with firm employment expected before the end of 2015. EXMAR is pursuing engineering studies on its four other exclusive regasification agreements. LNG carrier EXCEL continues to benefit from the minimum revenue undertaking under the Facility Agreement with a third party and has been contracted as from end of April until the end of October 2015. LNG carrier EXCALIBUR is under long-term charter until March 2022.OFFSHORE: Following LLOG Exploration's DELTA HOUSE Floating Production System (FPS) seeing its first oil in mid-April, LLOG has initiated the engineering for a third OPTI® series production system. EXMAR Offshore Company has also kicked off an OPTI® FPS concept study for an integrated major oil and gas company for potential application in the Gulf of Mexico. The accommodation barges NUNCE and WARIBOKO continue operating offshore Angola and Nigeria respectively. The accommodations market in West Africa remains active with the redelivered KISSAMA anticipated to be employed well before the end of 2015.LPG: The Midsize (MGC) market remains very active in key trades with tight shipping supply conditions likely to remain throughout 2015. EXMAR's current midsize fleet is fully employed, either on contracts of affreightment or on fixed time charter, with 4 of the newbuild vessels currently under construction already committed to blue-chip customers for a total of 22 firm years. The VLGC market is likely to remain firm for the balance of the year. The EXMAR-operated BW TOKYO (83,000 m³ – 2009 built) is chartered-out until mid-2016 at partially Baltic Freight Index-related levels. For pressurized vessels the market remains difficult due a general oversupply of tonnage, particularly in the smaller size range. 85% of EXMAR's pressurized fleet is already committed for the remainder of 2015 with first class counterparts. The board of directors approved the distribution of a gross interim dividend of EUR 0.10 per share (EUR .0075 net per share). The net interim dividend will be payable to the holders of registered shares and to the holders of dematerialized shares (through their financial

institution) on 14 September 2015. (ex-date 10 September 2015 – record-date 11 September 2015).

Source: EXMAR

Inséré le 19/09/15 BOEKEN LIVRES Enlevé le 19/10/15

Hunting the Hunters: At War With the Whalers



Laurens leaves his job, sells up, travels to Australia and joins Sea Shepherd, an international organization protecting marine wildlife. He soon finds himself in the middle of the war against the Japanese whaling fleet operating in the Antarctic whale sanctuary. As the Japanese hunt whales, Laurens and the Sea Shepherd crews hunt them. Their boats are tiny for the wild Southern Ocean, and as well as dealing with the extreme weather they are repeatedly attacked by the Japanese crews and nearly shipwrecked by ice. On one mission, their boat is rammed, cut in two and sunk by a whaling ship. This is war, with no quarter given.

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The Southern Ocean Whale Sanctuary, Antarctica - 50 million square kilometres where commercial whaling is banned under international law. Yet Japan's whaling fleet hunts and kills over 800 whales in this sanctuary every year - ostensibly for "scietific research", but in truth to supply their lucrative whale meat markets. While the world looks the other way, there is one group trying to stop the clock as it ticks down to extinction: Sea Shepherd

Laurens de Groot was a detective for the Dutch police, specializing in organized crime and environmental pollution. He was rapidly promoted through the ranks, but became increasingly disillusioned with failed prosecutions and minimal prison sentences. But although as a detective there was little he could do to stop the truly big criminals, there was a more radical option - direct action, not necessarily within the law.

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mission, their boat is rammed, cut in two and sunk by a whaling ship. This is war, with no quarter given.

Author Groot, Laurens de
Format PB
Publisher Adlard Coles Nautical (2014)
Price £12.99
Availability In stock

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Court construes in-transit loss clause in voyage charterparty

Trafigura Beheer BV v. Navigazione Montanari Spa (Valle di Cordoba) [2014] EWHC 129 (Comm)

The Commercial Court has recently considered the meaning of the expression "in-transit loss" in a voyage charterparty.

The Valle di Cordoba was attacked during the voyage by pirates, who forced the crew to transfer some of the motor oil cargo onto a lightering vessel and stole it. The Court held that the transferred cargo was not "in-transit loss" or "lost cargo" within the meaning of the in-transit loss ("ITL") clause in the charterparty. So the Owners were not liable for the loss. The Court further held that, if it was wrong on this, the Owners could nonetheless rely on the protection of the charterparty exceptions clause, which incorporated the Hague-Visby Rules exceptions.

Ince & Co acted for the successful Owners. The decision is important because of the nature of the alleged in-transit loss that was claimed. In addition, if the Owners had been held liable, they would have lost their P&I cover because of the standard provisions in Club rules, which provide that Club cover is lost if owners agree to a regime that is more onerous for them than the Hague-Visby Rules regime.

The background facts

The Valle di Cordoba was chartered for the carriage of a consignment of premium motor oil from Abidjan, Cote d'Ivoire to Lagos, Nigeria. Having tendered NOR on arrival offshore Lagos, the vessel sailed to a position about 55nm south-west of Lagos and awaited the Charterers' orders. The vessel was then attacked by pirates, who arranged for an STS transfer of some 5,300 mts of the cargo to an unknown lightering vessel that then departed with the cargo. The Valle di Cordoba was later released by the pirates and the remaining cargo was discharged. The Charterers claimed against the Owners for the value of the transferred cargo.

The charter was on a Beepeevoy 3 ("BP3") form plus Trafigura Chartering terms of 1 August 2005. The Charterers brought their claim under clause 4 of the Trafigura terms, the ITL clause, which provided as follows:

"In addition to any other rights which Charterers may have, Owners will be responsible for the full amount of any in-transit loss if in-transit loss exceeds 0.3% 0.5% and Charterers shall have the right to deduct from freight claim an amount equal to the FOB port of loading

value of such lost cargo plus freight and insurance due with respect thereto. In-transit loss is defined as the difference between net vessel volumes after loading at the loading port and before unloading at the discharge port."

The charter terms provided for payment of freight to be made, less any sum derived from the operation of certain of the Trafigura clauses, including the ITL clause, a Clause Paramount, and an exceptions clause which, among other things, gave the Owners the benefit of the Hague-Visby Rules exceptions.

The Judge had to decide whether the transferred cargo was an "in-transit loss" or "lost cargo" for the purposes of the ITL clause and, if it was, whether the ITL clause imposed strict liability on the Owners in respect of the transferred cargo or whether the exceptions clause applied to exclude that liability (it being accepted by the Charterers that if the Hague-Visby Rules applied, the Owners would have no liability).

The Commercial Court decision

The Judge found in favour of the Owners. In his view, the ITL clause defined how the amount of in-transit loss is determined, rather than specifying the kinds of loss that qualify as in-transit loss. Ascertaining any short delivery in the bulk carriage of oil was difficult because there is no absolutely correct measurement. The practice in the oil trade is to make allowances of about 0.5% to account for discrepancies that invariably take place when measurements are made. In-transit loss clauses were designed to reflect this by stipulating a cut-off point above which differences in volumetric measures could not simply be explained as reflecting the normal incidents of carriage for which owners would not be liable.

Against this commercial background, the Judge ruled that the expression "in-transit loss" means loss that is incidental to the carriage of oil products and does not extend to losses such as those caused by the action of pirates. The Judge recognised that the limits of in-transit loss were not precisely defined. Uncertainties could arise in some cases about whether particular losses would fall within the expression as a matter of general trade usage. He did not, however, have to examine those uncertainties in this case as he considered that loss from the pirates' activities was clearly not covered.

Even if he was wrong on that, the Judge held that the Owners were nonetheless entitled to the protections afforded to them by the exceptions clause and the Hague-Visby Rules incorporated into the charterparty. He rejected the Charterers' argument that the ITL clause made the Owners strictly liable for loss of cargo. It was highly unusual for owners to accept absolute liability for cargo loss in a charterparty. Furthermore, given that the Owners would have the benefit of the Hague-Visby Rules exceptions if sued under the bills of lading, it did not make sense that they should be under an absolute liability if sued instead by the Charterers under the charterparty. The Charterers' interpretation of the ITL clause would have surprising results: the Owners would be strictly liable only in respect of differences between vessel measurements after loading and before discharge. This would mean, among other things, that the Owners would be strictly liable for loss of cargo, but not for damage to it. The Judge concluded that the parties could not have intended to agree to a term under which strict liability would give rise to "inconsistencies and absurdities".

The Owners' responsibility was, therefore, subject to the exceptions clause, which provided that the Owners were entitled to the protection of the relevant articles in the Hague-Visby Rules "in respect of any claim made" under the charterparty. There was no good reason to limit the natural meaning of "any claim" by excluding claims under the ITL clause.

Comment

Whilst this decision does not determine the kinds of loss that will qualify as in-transit loss, it is helpful in indicating that such loss is likely to be confined to loss that occurs as a direct result of the transit during the course of a routine or ordinary voyage.

The Charterers are seeking leave to appeal.

Paul Herring
Marco Crusafio

Inséré le 21/09/15 NIEUWS NOUVELLES Enlevé le 21/10/15

CMB increases profits despite lower revenues

The Antwerp, Belgium based cargo vessel and aircraft operator posted EBITA of $121 million in the first half compared with $39.9 million the previous year.

CMB increases profits despite lower revenues first half 2015.**Compagnie Maritime Belge (CMB)**, an Antwerp, Belgium based cargo vessel and aircraft operator, reported revenues of $172.2 million for the first half of 2015, down from $252.3 million in the first half of 2014, according to the company's most recent financial statements Earnings before interest, taxes, depreciation and amortization increased to $121 million in comparison to last year's first half EBITA of $39.9 million.Bocimar, CMB's dry bulk arm, reported a loss of $86.5 million, in comparison to last year's first half loss of $9.8 million. The loss of $15.6 million following the sale of the 53,505-ton dwt **CMB Biwa**, built in 2002, and the 55,000-ton dwt **CMB Jialing,** built in 2010, was included in this contribution. Container activities from subsidiary Delphis generated $6.9 million in earnings. CMB's Board of Directors approved the acquisition of Delphis' fleet of containerships in December 2014. Bochem, CMB's chemical tanker arm, reported a $1.9 million profit in comparison to the first half of 2014, in which it posted a loss of $265,000 ASL Aviation generated $3 million in profits, a decline from last year's first half result of $5.7 million. Other activities contributed $20.3 million in EBITA for the first half of 2015, much higher than the $1.5 million reported in same period last year. CMB attributed the higher 2015 contribution primarily to capital gains of over $21 million from the sale of its 29 percent shareholding in Anglo Eastern Management Group.

Source: americanshipper

Inséré le 23/09/15 DOSSIER Enlevé le 23/10/15

Coal Cargoes – Know the Dangers

Introduction

Coal is a potentially hazardous cargo and serious incidents continue to arise. In some instances it would appear that those on board were not entirely familiar with the risks, and

on other occasions the coal was not carried in accordance with regulatory requirements or best practice.

One example involved a crew member who was using a rotary wire brush on deck to remove patches of rust from the hatch coaming of a closed hold containing coal, possibly creating a source of ignition. While operating the equipment an explosion took place inside an adjacent hold, blowing the hatch covers upwards and propelling the crew member over the ship's rail into the sea. He suffered serious injuries as a result.

In another case a vessel with a cargo of Indonesian coal on board saw smoke rising from one of the holds while anchored outside the discharge port. The vessel had been asked to ventilate the holds just prior to berthing. However, in the absence of firm orders the vessel's crew decided to ventilate the holds anyway in case they were instructed to berth at short notice. The vessel did not berth until several days later during which time the cargo in several holds began to self-heat.

On another occasion a deck rating on board a vessel carrying coal was asked to take samples from inside a cargo hold and collapsed at the base of a vertical ladder leading from the main deck. Another deck rating entered the hold to assist him but collapsed in the same location, as did two more crew members in succession. Although all four crew members were eventually rescued, one lost his life and the others required hospital treatment for respiratory injuries.

IMSBC Code

The International Maritime Solid Bulk Cargoes (IMSBC) Code contains a detailed schedule regarding the carriage of coal, describing the particular hazards associated with this cargo and specifying the precautionary measures to be taken. The IMSBC Code classifies coal as Group B (ie cargoes which possess a chemical hazard which could give rise to a dangerous situation on a ship). Additionally, the IMSBC Code classifies coal as Group A (ie cargoes which may liquefy if shipped at a moisture content in excess of their transportable moisture limit) if 75% or more of the material consists of fine particles under 5mm in size.

The requirements of the IMSBC Code schedule for coal should be read, understood and closely followed.

Cargo Declaration

The shipper's cargo declaration should be scrutinised carefully to determine which hazards are associated with the coal to be loaded. However, in some parts of the world it should be borne in mind that the cargo declaration may not necessarily be accurate. For example, declarations regarding coal cargoes from Kalimantan province, Indonesia, often state incorrectly that there is no self-heating risk. All coal cargoes from Kalimantan should be treated as being liable to self-heat. In the event of doubt, Members may forward a copy of the cargo declaration to the Managers for comment.

Potential Hazards

Methane (CH4)

Some coal cargoes produce methane, a non-toxic gas which is flammable at concentrations of between 5% and 16% in air. Ventilation should be carried out to ensure that the methane content of the atmosphere inside the cargo holds is always less than 20% of the Lower Explosive Limit (LEL) for methane. If coal with a methane hazard is to be loaded, all sources of ignition (eg smoking, hot work, naked flames, activities that may produce sparks) should be prohibited on deck, within the cargo spaces and inside enclosed spaces adjacent to the cargo holds. Since methane is lighter than air, it should also be remembered that methane gas may build up inside deck houses and other compartments if they contain access hatches or other cargo hold openings which are not gas tight.

Self-Heating, Oxygen Depletion and Carbon Monoxide (CO)

Some coal cargoes may self-heat due to oxidation. This process produces carbon monoxide, an extremely toxic, odourless and colourless gas which also depletes the amount of oxygen in the atmosphere. Since introducing fresh air into the cargo spaces will increase the risk of combustion, self-heating coal should be ventilated only if it becomes necessary to dissipate the accumulation of methane gas. Any ventilation carried out in such circumstances should therefore be kept to a minimum.

If self-heating coal reaches a temperature of 55°C or over it may spontaneously combust. Temperature probes (thermocouples) may be placed within the body of the cargo to aid the early detection of self-heating but their limitations need to be understood. Self-heating is often localised and a temperature probe may not detect cargo nearby which has begun to self-heat as coal is thermally insulating. The Club occasionally encounters situations where crew members are over-reliant on temperature probes and assume that all is well if the readings are less than 55°C which may not necessarily be the case. Monitoring the level of carbon monoxide as required by the IMSBC Code is a far more accurate means of detecting self-heating at an early stage.

Coal should only be accepted for shipment if the temperature of the cargo is less than 55°C. Additional information can be found in the Club's Loss Prevention Bulletin on the Monitoring of Self-Heating Coal Cargoes Prior to Loading. Once a cargo hold has been

loaded and the hatch covers have been closed, the amount of carbon monoxide inside the compartment should be monitored closely to determine whether or not self-heating is taking place. If the level of carbon monoxide in any cargo space reaches 50 ppm or exhibits a steady rise over three consecutive days, a self-heating condition may be developing. Should such a situation arise the IMSBC Code lists the action to be taken thereafter.

Breathing air with an oxygen content of less than 12% can lead to unconsciousness. Less than 6% may result in death. The speed with which personnel may be overcome by oxygen depletion can be rapid, to the extent that they may collapse before they realise what is happening. Although exposure to carbon monoxide gas can be fatal even at low concentrations, it is often the lack of oxygen that is the main cause of such incidents.

As with methane, carbon monoxide is lighter than air and may accumulate inside enclosed spaces such as deck houses with cargo hold access arrangements inside which are not gas tight. No one should be permitted to enter the cargo holds or adjacent compartments until the atmosphere has been tested and found to be safe. Enclosed space entry procedures should always be followed.

Given the importance of monitoring gas levels in cargo holds and adjacent enclosed spaces, it is essential that the vessel's gas detectors are in full working order, calibrated correctly and not overdue for servicing. Any crew member responsible for operating such equipment should be fully trained and familiar with its use.

In the event of potential hazards such as the presence of toxic or flammable gas or reduced oxygen levels, the entrances to cargo holds and adjacent enclosed spaces should be locked shut and warning notices prohibiting access should be posted.

Liquefaction

If the shipper's cargo declaration states that the coal is Group A in addition to Group B, the accompanying certification and test reports providing the moisture content and transportable moisture limit (TML) of the cargo should be checked carefully to verify that the moisture content is less than the TML. The IMSBC Code requires the shippers to arrange for the moisture content to be determined not more than seven days prior to loading, repeating the test if significant precipitation is experienced between the time of testing and loading. The shippers are also required to ascertain the TML not more than six months prior to loading, or earlier if the composition or characteristics of the cargo change in the interim.

The vessel should also carry out regular "can" tests throughout loading in accordance with the guidance set out in Section 8.4 of the IMSBC Code. As an additional precaution it may also be prudent to carry out "can" tests even if the coal has not been declared as Group A, particularly if it appears to be wet or damp or if the proportion of fine particles seems to be high. If a "can" test results in the appearance of free moisture or fluid conditions, the Managers should be contacted immediately as further laboratory tests and expert advice may be required.

Sulphur

Coal from certain locations may have a high sulphur content. If the coal or the cargo holds are wet, the sulphur and water may react to produce sulphurous acid which is corrosive and may damage hold steelwork, particularly if the coatings are not in good condition. The reaction also produces toxic gas and hydrogen. The IMSBC Code requires the shippers to declare the sulphur content of the cargo, therefore they should be asked to provide such information if they fail to do so. In order to monitor the possible corrosive effects of carrying high sulphur coal, the vessel should be provided with a means of measuring the pH value of cargo hold bilge water from outside the cargo spaces.

Conclusions

If coal is to be loaded, the shipper's cargo declaration should be examined in detail to identify the properties of the cargo and the associated hazards. It should also be remembered that some cargo declarations may not be entirely accurate.

All crew members should be informed about the possible risks before loading, perhaps during a shipboard safety meeting prior to arrival. The hazards and precautions may also be discussed when carrying out risk assessments or holding toolbox talks.

Members requiring further guidance are advised to contact the Loss Prevention department.

West of England
Safety Alert

Inséré le 25/09/15 HISTORIEK HISTORIQUE Enlevé le 25/10/15

Rust and Rocks: LA JENELLE's Wreck 41 Years On

Forty one years ago, Channel Islands Harbor in Ventura County, California came close to hosting a retired ocean liner as a floating hotel and restaurant.

Channel Islands Harbor is at the top of the map. LA JENELLE lies st the western entrance to Port Hueneme (lower portion of map).

Instead, a much different fate awaited the steamer LA JENELLE, which perished on Silver Strand Beach in Oxnard, adjacent to busy Port Hueneme. The notion that portions of the ship still exist came as quite a surprise a few years ago when fellow cruise writer/ship historian/MaritimeMatters contributor Shawn Dake mentioned a huge winter storm had uncovered much of the wreck. *What wreck?* Most accounts of the ship's sad demise stated that she was scrapped on site. These same reports also misspelled her name as LA JANELLE.

LA JENELLE memorial plaque.

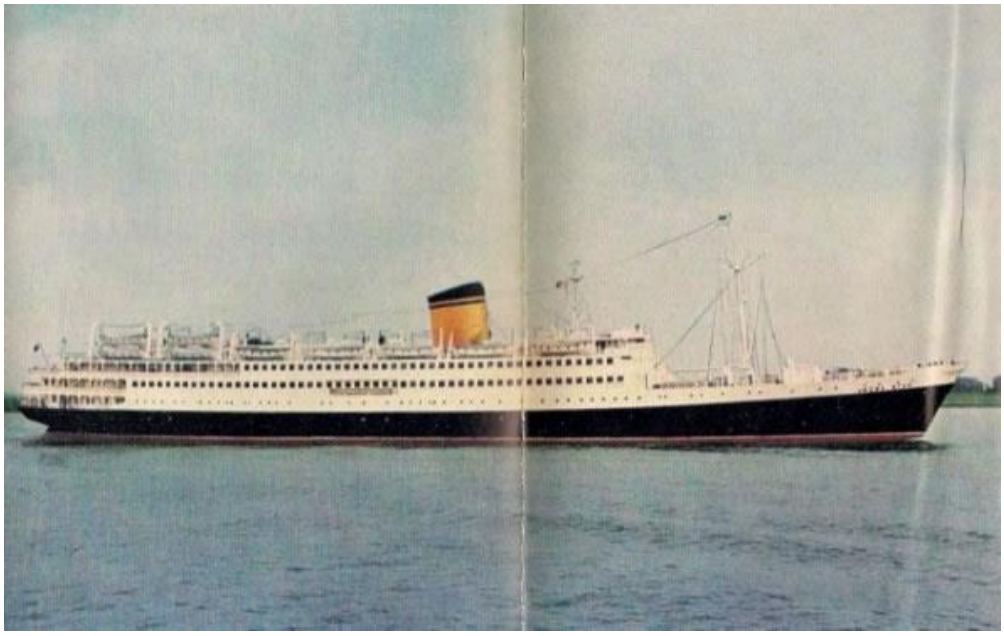
Here is what a brass plaque near the breakwater that now entombs large parts of the once gallant American merchant ship says:

"Buried beneath the beach is the 467-foot hull of the 'La Jenelle'. The luxury liner was driven aground at this site during a coastal storm on April 13, 1970. The State Lands Commission coordinated a joint Federal, State and Local Governmental effort to convert the remains of the derelict ship from a safety hazard to this recreational area for public benefit. The backside park and fishing area, constructed with state funds, is maintained by the county of Ventura."

BORINQUEN post card. Shawn Dake collection.

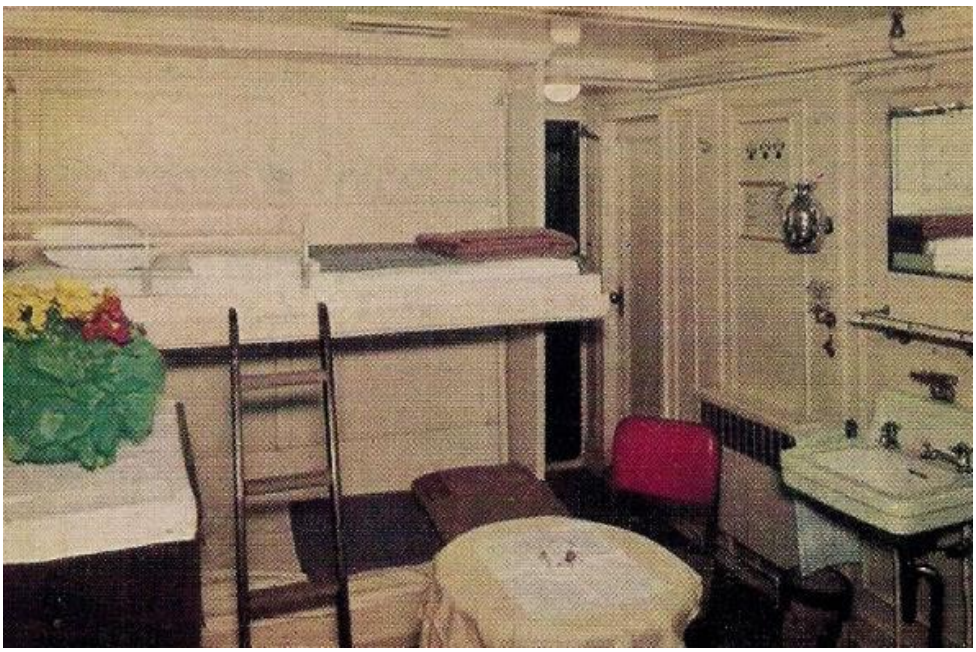
The LA JENELLE saga began in 1931 at the Bethlehem Steel Shipyard in Quincy, Massachusetts when the 7,114 gross ton BORINQUEN was completed for the New York and

Puerto Rico Steamship Company. The BORINQUEN carried 261 first class and 96 second class passengers on a fortnightly service to San Juan and Ciudad Trujillo (Dominican Republic). In January of 1942, she was requisitioned for U.S. war service, serving successfully as a transport with a capacity of 1,289 soldiers. In 1946, she returned to Bethlehem Steel for a major renovation for Agwilines' and later Bull Lines' service to Puerto Rico. From 1949, the ship operated under the name PUERTO RICO before being laid up at New York and offered for sale in 1953.

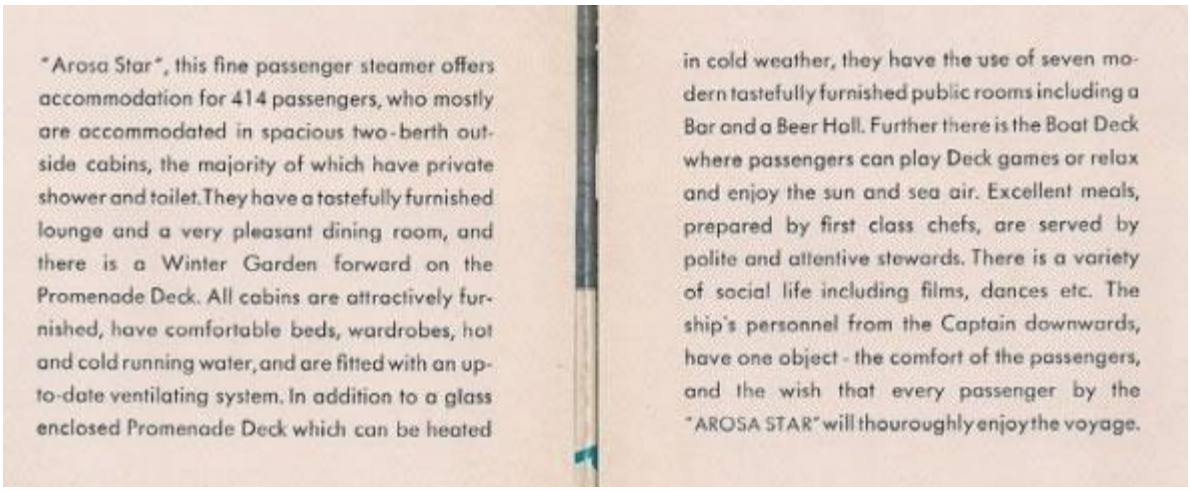


AROSA STAR. Shawn Dake collection.

In 1954, the PUERTO RICO was bought by newly formed, Swiss-based Arosa Line, which took the ship to Bremerhaven for a USD $1 million rebuilding into the AROSA STAR for budget transatlantic service between Bremerhaven and Quebec.



When the AROSA STAR emerged from the shipyard, she had been reconfigured to accommodate 38 passengers in first and 768 in tourist class. She was also the recipient of a modernized, raked bow. In addition to crossings, the AROSA STAR was employed in Bermuda and Caribbean cruise service (with a reduced capacity of 414) from New York and Miami.



"Arosa Star", this fine passenger steamer offers accommodation for 414 passengers, who mostly are accommodated in spacious two-berth outside cabins, the majority of which have private shower and toilet. They have a tastefully furnished lounge and a very pleasant dining room, and there is a Winter Garden forward on the Promenade Deck. All cabins are attractively furnished, have comfortable beds, wardrobes, hot and cold running water, and are fitted with an up-to-date ventilating system. In addition to a glass enclosed Promenade Deck which can be heated in cold weather, they have the use of seven modern tastefully furnished public rooms including a Bar and a Beer Hall. Further there is the Boat Deck where passengers can play Deck games or relax and enjoy the sun and sea air. Excellent meals, prepared by first class chefs, are served by polite and attentive stewards. There is a variety of social life including films, dances etc. The ship's personnel from the Captain downwards, have one object - the comfort of the passengers, and the wish that every passenger by the "AROSA STAR" will thouroughly enjoy the voyage.

Arosa Line was a notoriously short lived blip in transatlantic liner and cruising history. Plagued by safety issues, bad publicity and financial overreach, the quickly-assembled Arosa fleet of four ships was arrested and auctioned off.

AROSA STAR was sold to Eastern Steamship Lines in June of 1959. Following another refit, the ship entered three and four night Bahamas cruise service from Miami as the BAHAMA STAR. With all berths occupied, the now fully air conditioned ship had a rather high passenger capacity of 735. Here is an excerpt from Laurence Dunn's 1965 edition of "Passenger Liners": "The passenger decks are "Promenade, A, B, C and D. The after half of Promenade Deck contains the main series of public rooms, the deluxe cabins being forward. Both Promenade and A Deck cabins have two and three berths, some 25 having their own shower and toilet, some just toilet. The cabins on the next three decks are 2-4-6 berths. The dining saloon is on B Deck, amidships. Aft, there is a calypso lounge and writing room. Public spaces and some cabins were redecorated and refurbished in 1965."

The BAHAMA STAR has a legacy as one of Miami's pioneering cruise ships and remained extremely popular for the greater part of the next decade. The ship made headlines when she rescued 378 passengers from burning fleetmate YARMOUTH CASTLE off Nassau in 1965. New SOLAS regulations in the aftermath of that and several other passenger ship

fires would soon force the elderly BAHAMA STAR to undergo prohibitively costly renovations or retire.

BAHAMA STAR made her last cruise in November of 1968 and was immediately offered for sale. Panamanian buyers eventually purchased and leased the ship to a California-based venture as the LA JENELLE floating restaurant and hotel at Channel Islands Harbor in Ventura. After it was discovered the waters were not deep enough, LA JENELLE lay in limbo awaiting the harbor's dredging or a further sale or charter. On April 13, 1970, an unusually fierce storm drove her from her moorings and onto the beach.

LA JENELLE capsized in the monster surf. Stranded crew members had to be rescued by helicopter as the ship was battered beyond salvation.

California-based ship historian and MaritimeMatters contributor Gordon Ghareeb (co author with Martin Cox of the Los Angeles Steamship Company history, "Hollywood to Honolulu") went to visit the wreck a month or so after she beached and shared the following series of rare and dramatic images.

Gordon recently recalled, "I was also up there after demolition had started and there were lots (like dozens and dozens) of dining room chairs lined up on the beach. All ya needed to do was pick one up. But that was prior to my souvenir hunting days, so they all sat on the beach. Oh well."

The U.S. Navy (a base is adjacent to the Port Hueneme harbor entrance) was eventually called in to dismantle LA JENELLE. Shortly thereafter, a fire ravaged the stranded ship's accommodation.

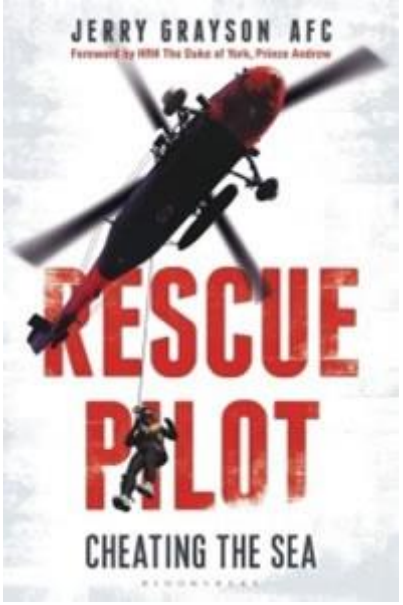
With her superstructure and portions of her hull removed, the gutted carcass of LA JENELLE was filled with sand, boulders and concrete to become an extension of the northern Port Hueneme jetty. Most of her superstructure was dumped a few miles out to sea to form La Jenelle Reef, an acclaimed spot for intermediate to advanced divers.

Over the decades, high surf eventually began to expose bits of the old liner. Gordon Ghareeb and Shawn Dake made occasional pilgrimages to the site and documented the process.

Today, the outer edge of the breakwater has all but crumbled into the sea, revealing patches of moss and rust-covered steel.

Inséré le 27/09/15 BOEKEN LIVRES BOOKS Enlevé le 27/10/15

Rescue Pilot - Cheating the sea



Jerry Grayson is an ordinary man who chose an extraordinary career. At age 17 he became the youngest helicopter pilot to ever serve in the Royal Navy. By age 25 he was the most decorated peacetime naval pilot in history.

For the Navy's Search and Rescue pilots, getting to work is both an adventure and an ordeal. Whether rescuing a wounded fighter pilot who has ditched in the sea, saving desperate survivors from a sinking ship, or picking up a grievously ill crewman from the deck of a nuclear-armed submarine that is playing a cat-and-mouse game with the Soviet navy, Jerry Grayson has lived a life of unparalleled excitement and adventure. His finest hour came during the infamous Fastnet Yacht Race of 1979 in which 25 yachts were lost.

When a catastrophic storm enveloped the competitors he and his crew pushed their Wessex helicopter to its absolute limits and put their own lives at risk, flying into hurricane-force winds to winch shipwrecked sailors from heaving tempestuous seas. An investiture at Buckingham Palace with Her Majesty the Queen was the result. Being a Rescue Pilot is a fast-paced career because there is no choice.

Lives are at stake and pilots must move and think fast. Jerry Grayson's inside view of this heroic service is as inspirational as it is celebratory. Excitingly told, frequently funny but also very poignant, Jerry's story is not an account of just one man's deeds, it is a salute to all the men and women he worked with who were able to turn tragedies into triumphs.

Includes a Foreword by HRH The Duke of York, Prince Andrew, Commodore-in-Chief of the Fleet Air Arm.

ISBN9781472917935 Image © Adlard Coles Nautical (2015)

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European Commission’s decision on beaching needs to be based upon up to date information warns GMS

GMS has called upon the European Commission to think carefully before banning beaching as an option for recycling European ships following the very positive study visits by a Japanese delegation and representatives from the Danish Shipping Association (DSA) to shipyards in Alang.The improvements made by some of the yards have led to a rise in standards to ensure compliance with the forthcoming Hong Kong Convention. The DSA is on record as saying in an article on its website that: "We consequently saw, among other things, workers wearing safety equipment and undergoing six-monthly routine medical check-ups. We also noted that the shipyards were engaged in operations such as asbestos handling, and regularly compiled reports from water and soil pollution tests etc. Finally, we were able to personally observe that three of the shipyards had laid a concrete base beneath the beach to stop seepage of harmful substances." A beaching ban by the European Commission will be counterproductive as it would discourage improvements in the ship recycling industries of South Asia.

Firstly, it will mean that EU flagged ships will be able to be recycled only in Turkey and China. The Turkish recycling market has a finite capacity with only 20 small yards and China's demand for steel from recycled ships varies greatly year to year. Currently there is little demand in China for scrap steel and there has not been for about a year and a half. This situation will undoubtedly lead to some EU flagged ships changing flag to register with states where no such ban is imposed to allow them a realistic choice of recycling destinations. Secondly, prices will also be severely affected as EU registered ships forced to deal with only Turkish yards could face a collapse in value. Traditionally, southern Asian prices have been higher by about 40-60% than in Turkey and China due to the higher demand and value for ship steel, machinery, equipment, spares and ancillary items. Incidentally, most of these items are re-used; a more environmentally friendly option. Banning beaching will only discourage other yards in the region from raising standards, thereby destroying the current 'virtuous circle' of improvements among shipyard owners in Alang. If all yards in India are excluded from European approval, regardless of the improvements they have made in their infrastructure and work procedures, they will have no interest whatsoever to support their government's ratification of the Hong Kong Convention. Finally, and perhaps most importantly, for the European Commission to base its decision on beaching on secondary data (instead of primary investigation) is illogical. There is no reasonable justification for the European Commission to punish its own members without thorough analysis. So for these reasons GMS urges the Commission to see for themselves the improvements that have been made by some of the shipyards in Alang and is happy to extend an open invitation to officials from the Commission, and to officials from EU member states responsible for ship recycling. "The last visit by officials from the EU was back in 2009 and much has changed for the better since then. It would be a travesty of justice now that yard owners in Alang are making huge improvements to working conditions for the EU to make a decision without seeing for themselves the positive changes made in the region. GMS would be happy to organise such a visit," said Dr Anil Sharma founder and CEO of GMS.

Source: GMS

Ovit – another ECDIS-assisted accident

With the phase-in schedule for the mandatory carriage of ECDIS very much underway, hopes for the safety improvement the technology could offer are not helped by a procession of what can be described as 'ECDIS-assisted' accidents. A recent investigation report by the UK Marine Accident Investigation Branch is evidence of the work still to be done

The spectre of ECDIS-assisted accidents has been raised once more in the UK Marine Accident Investigation Branch's recent publication of its investigation report following the grounding of the tanker Ovit on a bank in the Dover Strait in late 2013.

The Malta registered chemical tanker ran aground on the Varne Bank while on passage from Rotterdam, Netherlands, to Brindisi, Italy. The vessel was carrying a cargo of vegetable oil, and thankfully there were no injuries, no pollution and damage to the vessel was superficial.

The ship remained aground for just under three hours before being refloated on the rising tide and subsequently berthed in Dover.

The consequences of this accident were mercifully minor, however the circumstances of the case make interesting reading as another example of what the Marine Accident Investigation Branch (MAIB) itself has noted is not the first incident caused by improper use of ECDIS.

ECDIS was Ovit's primary means of navigation at the time of the grounding, and the officer of the watch was following a route shown on the ECDIS display – however, he appears not to have noticed that the route passed directly over the Varne Bank, as the ship itself did not too long after.

As MAIB describes it, the chief officer was acting as the officer of the watch (OOW), with the deck cadet as the assigned lookout. Ovit was following an autopilot controlled heading, and the scale selected on the ECDIS display was aligned with the 12 nautical miles (nm) range scale set on the adjacent radar display.

As Ovit approached the Varne Bank, the deck cadet saw the flashing white lights of the Varne Light Float ahead, but did not identify the lights or report the sighting to the OOW. Seventeen minutes after the ship passed the Light Float the vessel grounded on the Varne Bank.

However, at this stage it seems that the OOW was still not aware that the ship had grounded – when asked about his proximity to the Bank 15 minutes after the grounding the OOW informed the Dover Coastguard that he had "an engine breakdown problem."

It was almost a full twenty minutes after the incident that the OOW, upon zooming in on the ECDIS display and, noticing that Ovit was in an area of shallow water, realised the vessel was aground.

Use of ECDIS

MAIB's report notes that all of Ovit's deck officers had attended a generic ECDIS course and a type-specific ECDIS training course, from a manufacturer-authorised training provider, which focused on the specific equipment fitted on board the ship.

Attendees at the training courses were a mix of senior and junior officers with varying degrees of experience at sea and with ECDIS, and the report says that the Ovit's master was "uncomfortable" in being made to do an ECDIS training course in the company of the junior officers, to the extent that "he found it embarrassing to ask questions."

The ECDIS installed on board was certified according to all applicable standards, and carried an installation certificate stating that "all configuration have been done [sic]. System is tested in sea trial and seen OK [sic]."

The system comprised a planning terminal on the starboard side of the bridge by the chart table and a monitoring terminal on the port side bridge console. Both computers were connected in a local area network and each system was supported by an independent, uninterrupted power supply. All necessary sensors, such as gyro, GPS and AIS, were connected.

Following the grounding, MAIB examined and analysed Ovit's ECDIS, uncovering a number of issues that contributed to the grounding.

The report notes that the audible alarm for the ECDIS was not functioning, and that the audio output communications port had not been configured – consequently, when an alarm was triggered no sound emitted from the integral speaker in the ECDIS. Investigators also found that the 'display and highlight dangers' sub menu option on the ECDIS had been selected to 'never'.

One particularly damning indictment of the officers' use of the ECDIS came with the discovery that, with the Rotterdam - Vasto route selected, the 'check-route' page highlighted a significant list of potential hazards including the risk of grounding on the Varne Bank (see image below).

However, this list was ignored by the Ovit's deck officers, who interpreted the 'no alarms' notation on the lower half of the page to mean that there were no hazards along the route – despite this 'no alarms' notation sitting directly under a list of potential dangers.

System alarms were also noted to have been recorded in the chart system log, which showed numerous XTD out of limits alarms.

A passage plan checklist, included in Ovit's safety management system (SMS), was completed by the third officer, but again, in response to the 'Are there any routing hazards?' question the third officer had replied 'nó . A voyage planning checklist for use in ECDIS fitted ships, which was also included in the vessel's SMS, had not been completed.

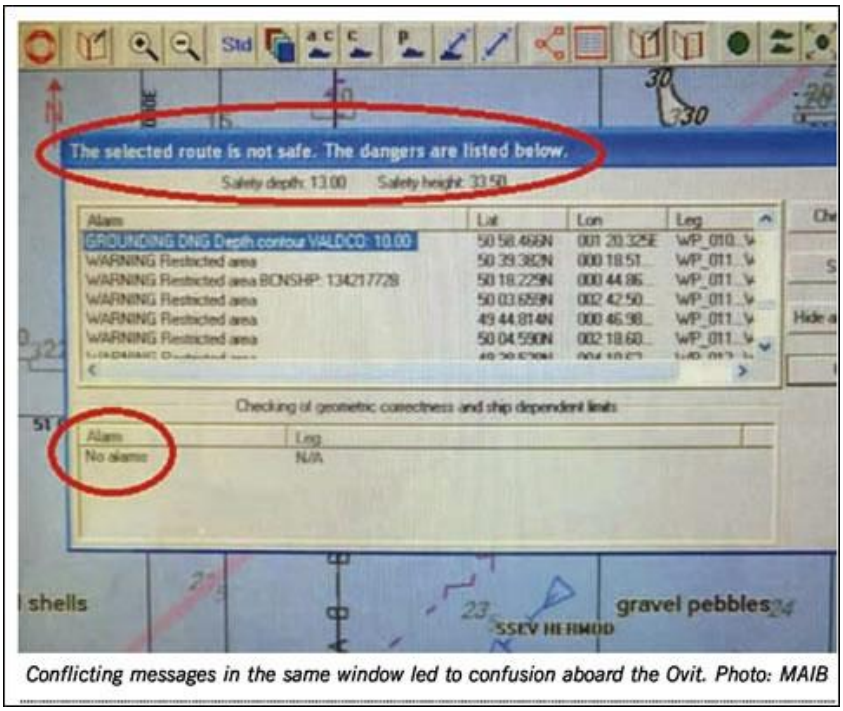
Safety measures

Among the potential safety benefits offered by ECDIS, and a key driver its introduction as a mandatory piece of equipment, are its numerous alerting systems that should help to let watchstanders know that potential danger lies ahead.

The ECDIS on board the Ovit had several safety features, such as the ability to set a Deep contour, Safety contour, Shallow contour and Safety depth for the system, as well as including a guard zone ahead of the ship to provide advance warning of dangers.

The Safety contour in the case of the Ovit was set at 30m – the default factory setting.

The operator is also able to select whether the dangers identified in the guard zone are highlighted on the display. However, even if the operator selects for the dangers not to be highlighted, an audible alarm should still sound when a danger is identified inside the guard zone.



Conflicting messages in the same window led to confusion aboard the Ovit. Photo: MAIB

Two further depth alarms were incorporated into the ECDIS, a safety contour alarm which activates if the guard zone crosses the selected safety contour (a mandatory alarm required by the IMO performance standards), and a grounding alarm which activates when the depth at the ship's position is less than the selected safety depth.

When a safety parameter is exceeded, the specific ECDIS system installed on the Ovit is programmed to activate an audible alarm and provide the reason for that alarm in the alarm panel on the display. Once the operator acknowledges the alarm, the audio signal is cancelled.

However, the user guide states that: 'The same alarm will not be triggered again but the message will remain displayed for as long as the relevant limitation is exceeded or until the function is purposely switched off.'

'For example, after acknowledgement, the message 'XTD out limits' will remain displayed for as long as the XTD (cross track distance) exceeds the XTD limit value defined in the system or until the route is deactivated.'

In addition, when a passage plan has been completed and is activated for use, the ECDIS automatically defaults to a 'check-route' function which examines the intended route for navigational hazards within a user-defined distance both sides of the track.

When a vessel is underway, deviation from a pre-determined route (by exceeding the XTD value) also triggers a mandatory ECDIS alarm.

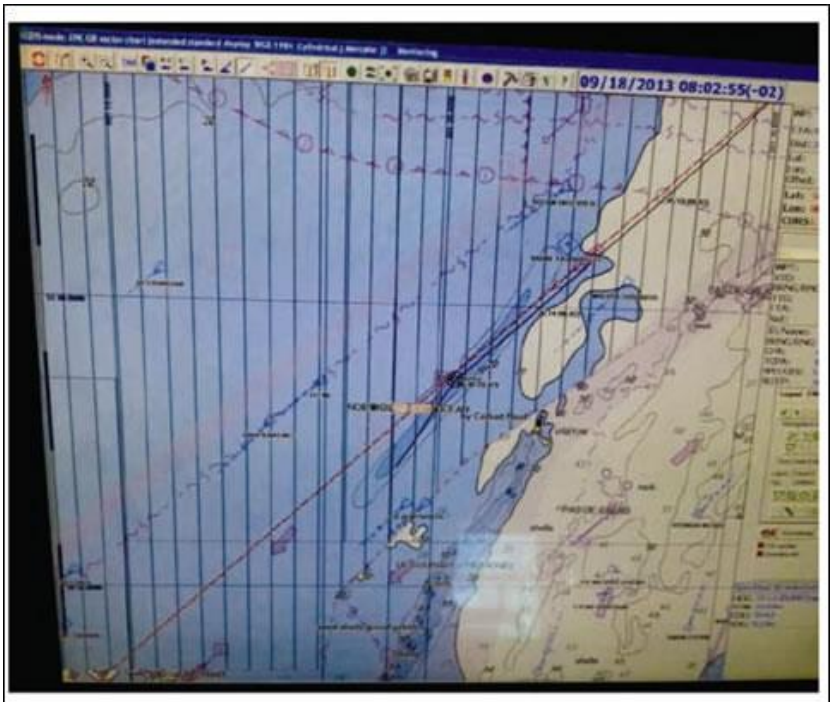
Accident analysis

In its analysis of this accident following its investigation, MAIB says that the circumstances of the grounding show that the onboard ECDIS "was not used effectively" in four specific areas: use of the Safety contour; Route monitoring; ENC management; and Alarm management.

As the report states, the safety contour setting is intended to offer the OOW a distinct difference between safe and potentially unsafe water; crossing the safety contour initiates an alarm to alert the watchkeeper.

According to Ovit's SMS the safety contour value should have been set at 13.35m, and the ECDIS would then have defaulted to the nearest deeper contour on the chart in use, which was the 20m contour. Instead, the safety contour was set to 30m, which was the manufacturer's default setting.

The report says that its investigation has shown that the 20m setting would have provided a much clearer picture of where there was safe water available in this case.



'Jail bars' on the screen should have alerted the crew to the fact that all was not well. Photo: MAIB

In relation to route monitoring, the report says that while a deviation from the planned route is a mandatory ECDIS alarm, the XTD alarm is only effective when the planned route is safe in the first place and an appropriate value for XTD is set.

In the case of the Ovit, the XTD value was 0.00nm – and as such the XTD alarms were of no value.

The scale of the ENC used at the time of the grounding is also criticised, with the report stating that during the Dover Strait passage ENC GB202657 was in use, a 'general' chart on a scale of 1:350,000. MAIB says that this scale of chart would only be effective for planning purposes in coastal waters.

Instead, the 1:45,000 scale ENC GB401892 would have been suitable for coastal navigation – this chart was available on board but it was not in use, and the ECDIS 'auto-load' feature which would have automatically selected the best scale chart was switched off.

The ECDIS did include a safety feature whereby 'jail bars' are displayed as an over-zoom notification which should have alerted the OOW that something was wrong with the ECDIS display. However, the chief officer did not recognise their significance and consequently did not manually load the better scale ENC.

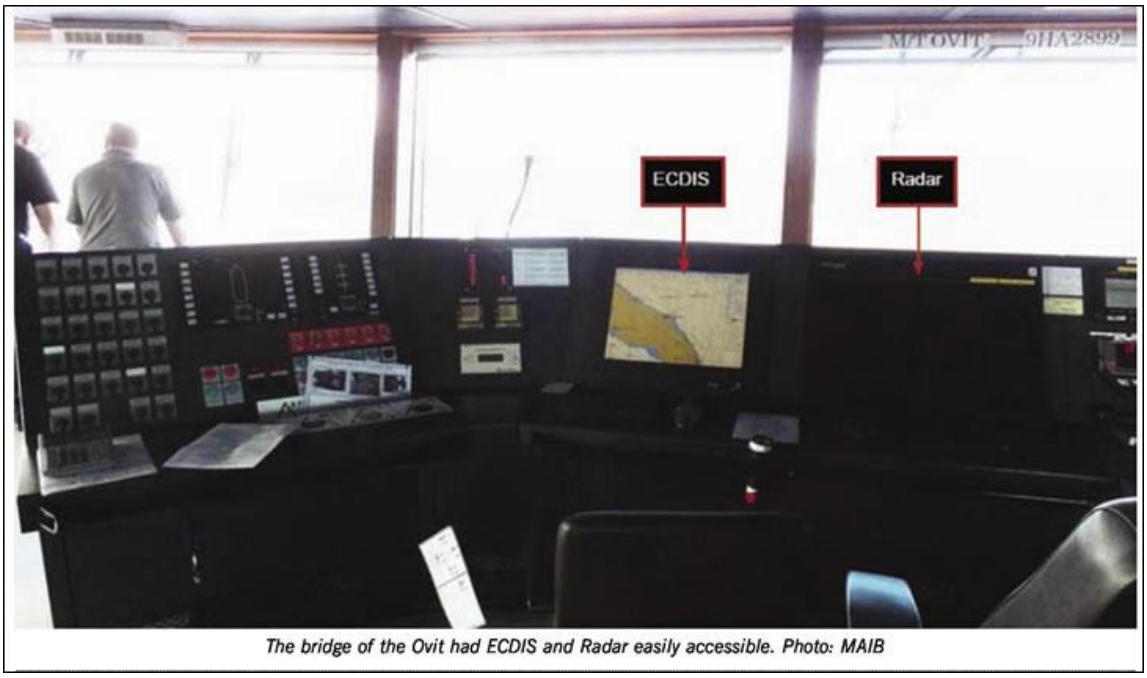
These circumstances were compounded by the fact that the communications port for the mandatory audible alarm had not been correctly configured, rendering the audible alarm inoperable.

As MAIB notes, although the installation report had stated that all configurations had been completed, it is possible that the audible alarm had never worked on board, though it is also possible that the configuration of the alarm's communication port had been tampered with during Ovit's time in service.

Either way, the report says that the evidence gathered during the investigation indicates that the vessel's deck officers had operated the ECDIS without an audible alarm for a considerable period of time.

Lessons learned

While the ECDIS on board the Ovit was clearly not operated in the appropriate manner, MAIB's report also highlights some features of the ECDIS system itself, which it says "were either difficult to use or appeared not to comply with international standards."



The bridge of the Ovit had ECDIS and Radar easily accessible. Photo: MAIB

In particular, as mentioned above (and highlighted in the picture on the previous page), the report notes that at the top of the check-route page on the display, while it clearly stated that the selected route was unsafe the words 'no alarms' could also be seen at the bottom left of the same page.

MAIB describes this as "unhelpful", adding that, though the 'no alarms' information refers to system input data, the reaction of the Ovit's deck officers demonstrates that their understanding of the system "can be inadvertently linked with the navigational safety data above it."

The report also suggests that more could be done to highlight the importance of specific features critical to operation, such as safety contour settings, which in this case are described as being one of several indistinguishable settings on the same page.

More generally, in the conclusions listed by MAIB following their investigation, it is established that:

- The passage was planned by an inexperienced and unsupervised junior officer. The plan was not checked by the master before departure or by the officer of the watch at the start of his watch.
- The ship's position was monitored solely against the intended track shown on the ECDIS. Navigational marks on the Varne bank were seen but not acted upon.
- The scale of the chart shown on the ECDIS was inappropriate. The operator-defined settings applied to the system were unsuitable and the system's audible alarm did not work.
- The officer of the watch's situational awareness was so poor that it took him 19 minutes to realise that Ovit had grounded.
- Although training in the use of the ECDIS fitted to the vessel had been provided, the master and deck officers were unable to use the system effectively.
- A Channel Navigation Information

Service (CNIS) procedure, which should have alerted Ovit's officer of the watch as the tanker approached the Varne Bank, was not followed because the procedure had not been formalised and an unqualified and unsupervised CNIS operator was distracted.

Sadly, the conclusions reached in this investigation bear many similarities to previous reports issued by MAIB, as the Branch acknowledged in the publication of the findings of the Ovit case.

In the foreword to the report, MAIB's Chief Inspector of Marine Accidents, Steve Clinch, noted that the Ovit case represented the third grounding investigated by the Bureau where the failure of the watch-keepers to correctly use ECDIS properly had been identified as one of the causal factors.

As Mr Clinch points out, with more than 30 manufacturers of ECDIS equipment active in the market, all of which have their own approach to user interface design, a common approach to the use of this technology is lacking.

"Generic ECDIS training is mandated by the International Maritime Organization (IMO), but it is left to Flag States and owners to decide whether or not type-specific training is necessary and, if so, how it should be delivered," he said.

"As experience of ECDIS systems improves, evidence indicates that many owners are concluding that type-specific training is essential, though some are resorting to computer-based training once the watchkeeper is on board."

"In this accident, however, despite dedicated training ashore on the system they were to use, the operators' knowledge of the ECDIS and ability to navigate their vessel safely using the system were wholly inadequate."

Mr Clinch goes on to say that, despite the range of tools to assist with navigation available with modern ECDIS technology, many systems, though still certified and compliant with regulatory requirements, "can be operated at a very low level of functionality and with key safety features disabled or circumvented."

"Training and company culture may mitigate these shortcomings to some extent, but can only go so far," he said.

"While systems allow individuals to operate them in a sub-standard manner, there are those who will do so: such is human nature. For all shipping companies navigation is a safety-critical function and failure to navigate effectively can and does result every year in pollution, loss of vessels, and loss of life."

"It is to be hoped, therefore, that the next generation of ECDIS will embody features making them less vulnerable to the vagaries of human performance to achieve a better level of assurance that safe navigation is being consistently achieved.

"DS

Inséré le 25/09/15 NIEUWS NOUVELLES Enlevé le 25/10/15