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IFSMA - NEWSLETTER

The International Shipmasters Link

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**IFSMA Register of Technical Consultants and Maritime Experts
(RTCME) now Available on the Internet at "www.ifsma.org"**

Coming soon - The IFSMA Register of ISM Auditors

Some thoughts from your Secretary General

During the recent discussions that have been going on about Automatic Identification Systems, Electronic Charts inevitably became a key part of those discussions. It became apparent from these meetings that nobody could remember if there had ever been any formal meetings between the International Hydrographic Office (IHO) and the industry it serves. It seems nobody has asked the mariner, "What sort of chart do you need?" So we decided to put the matter right and held our first meeting on the 9th August 2002. The minutes of this meeting appear in this newsletter - see Page 21.

I suspect seafarers have taken for granted the common paper chart system which has been in evidence for over a century. Those who have seen the a modern chart of New Zealand superimposed over the original chart made by James Cook and his crew, can only marvel at the navigating and hydrographic skills of those early explorers. Over time dedicated hydrographers from around the world have supplied mariners with essential data to enable them to navigate safely. Hydrographic offices supply the charts and these are normally kept up to date by corrections supplied by the Notices to Mariners.

However computer technology introduced the Raster Navigation Chart which displays on a screen a facsimile of a paper chart, and is distributed under the authority of an approved hydrographic office.

Today, ECDIS (the Electronic Chart Display and Information System) is now considered the primary system for paperless charts, and can be interfaced with GPS to provide real time information. ECDIS meets the requirements of regulation V/20 of the 1974 SOLAS Convention by displaying selected information from a system electronic navigational chart (SENC)

with positional information from navigation sensors which will assist navigators in passage planning and monitoring, as well as providing additional navigation-related information. It sounds good but it is still a long way from perfection. It will take many years before the system is totally global. What will concern us all is the transitional period where both paper charts and electronic charts will be in use. Above all, will the electronic chart system provided meet the needs of you, the user?

You will see from the minutes that I have undertaken to ask you to let us know your concerns regarding charts and surveying, and what areas of the world would you like to prioritise as areas to survey.

Now I would like to refer back to the ISM Code and what IFSMA can do to make it work. The arguments for IFSMA providing experienced Shipmasters as ISM Auditors include our global network with sufficient members to provide the necessary manpower, our independence, and our ability to be totally transparent in the work we undertake. However we require a control system and a high standard of training and continued assessment.

Since the last newsletter I have received several encouraging letters in favour of IFSMA developing along these lines. But Rome was not built in a day! So to start the ball rolling we will be opening our Register of existing ISM Code Auditors and the form is included in this newsletter to send back for inclusion in this list - see back pages.

We would also like to hear from those who would like to be trained as ISM Auditors. Our current ideas are to have an initial distance learning programme followed by 5 days taught training. In this respect we would like to see groups geographically close together so that we could bring the training to you. However we need more feedback on this and your help would be appreciated. See also article on page 23.

Last but not least, I was recently at the launch of a new Nautical Institute publication, Ian Clark's *The Management of Merchant Ship Stability, Trim and Strength* and found it to be an excellent publication. It is clearly written and beautifully illustrated and would recommend it as one of the best books on the subject that I have come across. The information on this publication is included with this newsletter and IFSMA members can have a 20% discount on the published price.

You will also find another sheet on two excellent publications by Captain R A Cahill where you can get both for the price of one. Best wishes to you all.

News from IMO

The IMO's Maritime Safety Committee (MSC) has continued the detailed preparatory work for the diplomatic conference on maritime security that is to be held at IMO in December, to the point where confidence for a successful outcome to the conference is high. Nevertheless, in a reflection of the immense complexity of the issues being tackled by the Organization under this heading, the MSC has agreed to the convening of a second intersessional working group on the subject, held from 9th to 13th September 2002.

Among a raft of items designed to address maritime security issues, the most far-reaching is a proposed International Ship and Port Facility Security Code (ISPS Code) which would be implemented through SOLAS chapter XI. The Code would have two parts, one mandatory and the other recommendatory.

In essence, the Code takes the approach that ensuring the security of ships and port facilities is basically a risk management activity and that to determine what security measures are appropriate, an assessment of the risks must be made in each particular case.

The purpose of the Code is to provide a standardized, consistent framework for evaluating risk, enabling governments to offset changes in threat with changes in vulnerability for ships and port facilities.

To begin the process, each Contracting Government would conduct port facility security assessments. Security assessments would have three essential components.

First, they must identify and evaluate important assets and infrastructures that are critical to the port facility as well as those areas or structures that, if damaged, could cause significant loss of life or damage to the port facility's economy or environment.

Then, the assessment must identify the actual threats to those critical assets and infrastructure in order to prioritise security measures.

Finally, the assessment must address vulnerability of the port facility by identifying its weaknesses in physical security, structural integrity, protection systems, procedural policies, communications systems, transportation infrastructure, utilities, and other areas within a port facility that may be a likely target.

Once this assessment has been completed, Contracting Government can accurately evaluate risk.

This risk management concept would be embodied in the Code through a number of minimum functional security requirements for ships and port facilities. For ships, these requirements would include:

- ship security plans
- ship security officers
- company security officers
- certain onboard equipment

For port facilities, the requirements would include:

- port facility security plans
- port facility security officers

In addition the requirements for ships and for port facilities include:

- monitoring and controlling access
- monitoring the activities of people and cargo
- ensuring security communications are readily available

To ensure implementation of all these new requirements, training and drills will naturally play an important role.

Because each ship (or class of ship) and each port facility present different risks, the method in which they will meet the specific requirements of this Code will be determined and eventually be approved by the Administration or Contracting Government, as the case may be.

In order to communicate the threat at a port facility or for a ship, the Contracting Government would set the appropriate security level. Security levels 1, 2, and 3 correspond to low, medium, and high threat situations, respectively. The security level creates a link between the ship and the port facility, since it triggers the implementation of appropriate security measures for the ship and for the port facility.

The draft preamble to the Code states that, as threat increases, the only logical counteraction is to reduce vulnerability. The Code provides several ways to reduce vulnerabilities. Ships would be subject to a system of survey, verification, certification, and control to ensure that their security measures are implemented. This system would be based on a considerably expanded control system as stipulated in

the Convention for Safety of Life at Sea (SOLAS). Port facilities would also be required to report certain security related information to the Contracting Government concerned, which in turn would submit a list of approved port facility security plans, including location and contact details to IMO.

Among a number of other security-related items addressed, the committee agreed:

- four alternative texts, for the Maritime Security Conference to consider, that would accelerate the introduction of automatic identification systems for ships by amending SOLAS regulation V/19.2.4.
- the draft amendments to SOLAS chapter XI, for the Maritime Security Conference to consider, with a view to consideration and formal adoption; these amendments would create two parts to chapter XI, on dealing with safety matters and the other with security issues.
- to approve for circulation to the Maritime Security Conference the text of mandatory Part A of the new draft International Ship and Port Facility Security (ISPS) Code and the proposed recommendatory Part B on guidance of the draft ISPS Code with a view to consideration and formal adoption;
- to approve a number of draft Conference resolutions (see below) for circulation to the Maritime Security Conference with a view to consideration and formal adoption;
- to request Member Governments and international organizations concerned to consider, at home, the draft performance standards for a ship security alarm installation and to advise their MSC 76 delegations accordingly so that the performance standards may be

adopted at that session and promulgated by means of an MSC Circular.

- to request the IMO Secretary-General to communicate with Secretary-General of the World Customs Organization concerning the co-ordination of that Organization's work and that of IMO, in particular with regard to container security
- to approve draft functional requirements for a long-range tracking and identification system for submission to NAV 48 and to instruct the Sub-Committee to advise the maritime security conference thereon accordingly
- a detailed list of further tasks to be undertaken by other IMO bodies

Draft maritime security-related resolutions adopted by MSC 75

- Adoption of amendments to the Annex to the International Convention for the Safety of Life at Sea, 1974, as amended
- Adoption of the International Ship and Port Facility Security (ISPS) Code
- Further work by the International Maritime Organization pertaining to the enhancement of maritime security
- Future amendments to part B, chapter XI of the 1974 SOLAS Convention on special measures to enhance maritime security
- Promotion of technical co-operation and assistance
- Early implementation of the special measures to enhance maritime security
- Establishment of appropriate measures to enhance the security of ships, port facilities and fixed floating platforms not covered by part B of SOLAS chapter XI

- Co-operation and further work with the International Labour Organization (ILO), IMO/ILO work on port security - terms of reference
- Co-operation with the World Customs Organization

Maritime Security measures take shape at IMO

There is some repetition in the following article, due to the importance of this subject we reproduce the news article in full.

As mentioned in the previous article experts in maritime security from around the world completed an exhausting week-long meeting in preparation for a Diplomatic Conference later this year which is expected to adopt a completely new regulatory regime designed to prevent ships and their cargoes becoming the targets of terrorist activities. The second meeting of the intersessional working group on maritime security of the IMO's Maritime Safety Committee met at IMO headquarters last week (September 9th to 13th) to continue its work in refining a raft of measures to be put before the Conference in December.

The new measures are centred around a proposed International Ship and Port Facility Security Code, Part A of which is expected to be made mandatory through amendments to the Safety of Life at Sea Convention (SOLAS), under which more than 98 per cent of the world's international shipping fleet operates. Part B of the Code has been drafted as guidance material and is recommendatory.

The overall objectives of the Code, which were further developed during the September meeting, are to establish an international framework involving co-operation between Contracting Governments, Government agencies, local administrations and the shipping and port industries to

detect security threats and take preventive measures against security incidents affecting ships or port facilities used in international trade. It will establish their respective roles and responsibilities and ensure the early and efficient collection and exchange of security-related information.

The Code seeks to establish the guiding philosophy that will underpin the whole approach to maritime security. The essence of this philosophy is that, because each ship and each port facility present different risks, the Contracting Government should determine and set the appropriate security level. Security levels 1, 2 and 3 will correspond to normal, medium and high threat situations, respectively. The security level creates a link between the ship and the port facility, since it triggers the implementation of appropriate security measures for the ship and for the port facility. The Code will provide a methodology for security assessments to be made so that plans and procedures to react to changing security levels can be established.

At security level 1, for instance, it is envisaged that the activities to be carried out aboard ship would include the following: ensuring the performance of all ship security duties; monitoring restricted areas to ensure that only authorized persons have access; controlling access to the ship; monitoring of deck areas and areas surrounding the ship; controlling the embarkation of persons and their effects; supervising the handling of cargo and ship's stores; and ensuring that port-specific security communication is readily available.

By the same token, security level 1 would require a number of actions within the port facility, among them ensuring the performance of all port facility security duties; monitoring restricted areas to ensure that only authorized persons have access; controlling access to the port facility; monitoring of the port facility, includ-

ing mooring areas; supervising the handling of cargo and ships' stores and ensuring that security communication is readily available.

Among the provisions of the Code are requirements for shipping companies to appoint security officers at company level and for individual ships, and for each ship to carry an approved ship security plan on board. The plan should include measures to be taken at each of the three security levels referred to earlier. Ships would also be required to carry a Continuous Synopsis Record, which would provide a lifetime record of details such as the vessel's identification, ownership, registration and classification.

Security assessments would be required for all port facilities coming within the scope of the Code, and these would have to be reviewed and verified by the Contracting Government. On the basis of this assessment, a port facility security plan would be established. Furthermore, a port facility security officer would be designated for each port facility.

Aside from the provisions of the Code, the meeting also worked on revisions to the SOLAS Convention that would address control requirements and security alert devices to be carried aboard ships.

Background

Since IMO began its work on maritime security, following the adoption of resolution A.924 by the IMO Assembly in November 2001, considerable progress has been made in the Organization's efforts to prepare a comprehensive and meaningful regulatory regime that would create a protective umbrella over shipping activities of all sorts. At the same time, through its Integrated Technical Co-operation Programme, IMO has taken initiatives to assist developing countries to contribute to the world effort to protect shipping from terrorist attacks to the best of their abil-

ity and in line with the standards under elaboration by the Organization. Three regional seminars and workshops had already been held in Mombasa, Singapore and Sydney and others are to follow.

IMO has also established co-operation with the International Labour Organization (ILO) on the issue of seafarer identification, and has signed a Memorandum of Understanding with the World Customs Organization (WCO), mainly aimed at strengthening co-operation in the fields of container examination and integrity in multimodal transport and matters relating to the ship/port interface.

In his opening remarks to the Intersessional Working Group, IMO Secretary-General William O'Neil stressed that since September 11th 2001, hardly a day had passed without the media referring to the world struggle against terrorism and also without the specialized maritime press reporting on the issue, focusing mainly on initiatives taken to enhance maritime security and the reaction with which these initiatives had been met by Governments and the industry.

The matter of maritime security has introduced a new, and very important, element in IMO's series of responsibilities. In the short period of time since the last Assembly, the MSC, the Legal Committee and the Facilitation Committee along with its Ship/Port Interface Working Group, as well as four Sub-Committees, each from their own perspective, have contributed substantially to the Organization's anti-terrorism work.

IMO Legal Committee, for example, is in the process of reviewing, as a matter of priority, the Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, 1988, and its protocol concerning the Safety of Fixed Platforms located on the Continental Shelf. The objective here is to ensure that these treaties, which provide for the prosecution

or extradition of alleged criminals wherever they happen to be, remain relevant in light of the events of September 11th.

Throughout its work on maritime security, IMO has been at pains to balance the need for a continued, seamless flow of international seaborne trade with the requirements inherent in any enhanced security measures. The Secretary-General has also called for balance in the matter of inspection and control of ships, and urged those Governments wishing to take preventative action and to put in place anti-terrorist defences as soon as possible that it would be prudent to wait until, after the Diplomatic Conference in December, IMO had adopted a meaningful set of international standards which would have been produced in the shortest possible time.

The importance of the forthcoming December Conference has been highlighted by the G8 Leaders who, at their summit at Kananaskis in Canada last June, focused on the issue of terrorism and the need to protect shipping against terrorist attacks. The G8 leaders clearly indicated that they expected IMO to take a leadership role in the promotion of the globally perceived need to protect shipping from becoming a target of international terrorism. By recognizing IMO's role in this world effort, they had indicated satisfaction with, and confidence in, IMO's swift, firm and decisive reaction to last year's tragic events and that they had great expectations of the results of the December Conference.

Some Thoughts

No sense being pessimistic - It wouldn't work anyway!

Vuja De: That feeling you've never been here before!

Dyslexics have more fun.

'Moscow 1'

by Tim Spencer, Individual Member and Director of Maritime Allied Projects Ltd. www.mapmarine.com

It may well be that this article will appear in the IFSMA Newsletter and therefore before reading further the author would warn the reader that the subject matter has little relevance to maritime business.

As an individual member of IFSMA, I decided to attend the 28th General Assembly being held in Vladivostok at the end of May 2002. Whilst not wishing to detract from the importance of the General Assembly meeting, or indeed the rare opportunity to visit the city of Vladivostok, I was persuaded to undertake the trip when realising that the major part of the return journey could be made aboard the Trans Siberian train.

The distance from Vladivostok to Moscow by train is some nine and a half thousand kilometres and takes seven days, which includes over seventy stops. Apparently the number of stops can vary and may not be the same as the published time table. That being said, after seven days, the train arrived in Moscow only six minutes late!

The most lasting impression of the journey was not the scenery or the train itself, but more the vastness of the Russian continent. My personal almost non-stop journey commenced in San Francisco in a longitude of some 122° W and travelling eastward to Vladivostok in 132° E, one becomes aware that the distance from the West Coast of the United States to London is actually less than from London to Vladivostok.

The train starts off in a longitude similar to that of Japan and after over four days of travelling, upon reaching Omsk it is realised that you are still only on the same longitude as Bombay. You are also very much aware of the distances between the major cities and the lack of visible human habitation between the cities. The figure of one person for every six hundred square kilometres has been mentioned.

The scenery on route cannot be described as spectacular, with no noticeable mountain

ranges. Where possible, the train quite naturally follows the river courses with the best scenery being the route around the southern shores of the famous Lake Baikal in Central Siberia.

Until reaching the Urals on the sixth day, the journey westward was through the southern part of Siberia and being early summer, there was little evidence of the preceding severe winter. Rolling hills, early summer greenery and endless forests of birch and larch were the order of the day.

Between the major cities, the train passed through small towns and villages, sometimes stopping for only a couple of minutes at places which appeared to be little more than a cluster of ramshackled dwellings. These short stops were more prevalent during the first few days of the journey, presumably because there are few commuter trains or other forms of convenient travel in the eastern region.

Whilst many of the smaller towns were not particularly noteworthy, the villages which seemed to hug the train route were most interesting. Those who have seen 'Dr Zhivago' will be able to visualise the dachau type houses which all appeared to have a small ploughed strip of land close by. As there were no sign of crops in these prepared areas it can only be assumed that being the early part of the brief Siberian summer, the crops had only recently been sown and were not yet showing through. It has to be realised that the permafrost, as the word implies, lasts most of the year and even in southern Siberia, there is only a brief period of respite to work the land.

The history of the Trans-Siberian train is extremely interesting and this is well documented elsewhere. It is sufficient herein to say that, other than the river routes, it is the author's understanding that the train is the only year round reliable form of surface transport serving the vast expanses east of the Urals. Many of the towns are built up around the locomotive industry with many of the larger towns incorporating marshalling yards and maintenance sheds.

As has already been stated, one is always conscious of the enormity of the country and the distances to be travelled. This was particularly so when boarding the train at Vladivostok on that sunny afternoon in early June.



Start/End of the Line - Vladivostok Station

Unlike ordinary commuter travel many people on the platform were setting off on a very long journey, with a fair number almost certainly not returning to their point of origin for some considerable time. Much baggage and big farewells.

As with many of the station buildings, the Vladivostok station is ornate and probably built during the early part of the twentieth century. The building is well maintained,



An Original Steam Train



**"Moscow 1"
"Moscow - Vladovostok"**

This sign was cleaned at each station by the carriage attendant!

brightly painted and bustling with people about to set off on their own private journeys. Even travelling to the next major town of Khabarovsk, which is actually north and east of Vladivostok, takes over twelve hours. The reason for this initial direction is because the train travels wholly within Russia for the entire journey and is required to skirt both the Chinese and Mongolian borders.

Opposite the station there is a towering statue of Lenin with his arm out stretched as if pointing the way, inviting you to travel to Moscow or to the all important Baltic Sea city of Leningrad (St Petersburg), so very far divorced from this ancient Pacific sea port of Vladivostok.

The train going from Vladivostok to Moscow is known as 'Moscow 1' and leaves every second day, whilst 'Russia 2' leaves Moscow for

Vladivostok on a similar schedule, but commencing on alternate days. Both trains commence their journeys in the late afternoon, local time. With a seven hour time difference between the two cities, the train time tables indicate Moscow Time throughout. This can be a little confusing, particularly when the train is scheduled to arrive at a station at three in the morning and you have just finished breakfast in broad daylight.

Although not personally confirmed, the entire track length is said to be powered by diesel electric engines. The particular train that the author travelled on consisted of seventeen passenger carriages, of which only one was Premier Class. There was also a restaurant and freight/luggage carriage and it can only be assumed that if the demand for Premier Class reservations so warranted, then an additional carriage would be made available.

Each carriage is serviced by two conductress, who alternate on duty throughout the journey. These ladies keep the carriage clean and tidy, hoovering the corridors, attending to the toilet/washrooms and generally assisting the passengers. The two ladies looking after the Premier Class carriage were most pleasant and helpful throughout.

On arrival at Vladivostok station, in good time for the impending departure it was noted that each conductress was standing on the platform adjacent to their particular carriage entrance, ready to check the seat reservations and to welcome the passengers on board.

At each and every station throughout the journey, the on duty conductress would open the external doors, lower the steps down to platform (track level in most cases), wipe the hand rails and then proceed immediately along the platform to the centre of the carriage, to clean and polish what can only be described as colourfully embossed Russian flags with a large attached name plate, proudly indicating that this is the 'Moscow 1' train.

The length of time spent at individual stations varied considerably and upon alighting to stretch ones legs and purchase goods, the conductress would indicate how much time was available to wander around. Clearly it was not a good idea to miss the train, for to be abandoned at some small town in the middle of Siberia, could be most awkward, especially

without one's belongings. Hardly anyone was found to speak English, either at the many stations or even on the train.

The carriages are similar in design to those found in Europe, with the exception of the restaurant car which has a central walkway. All the other carriages have a side corridor with the individual compartments being entered by a solid sliding door (no glass), which door can be locked from the inside. The conductress is meant to be the only key holder, but if you speak nicely to her at the commencement of the journey, you may just end up with your own key, which of course would open or close almost every compartment on the entire train. The message here is to always have your documentation etc., on your person.

The Premier Class compartments are air-conditioned and subsequently the windows are kept locked. The corridor windows can be opened as they are not air-conditioned. The restaurant carriage on this particular train was also not air-conditioned. This of course may not be the norm.

The Premier Class compartments contain two banquette type seats, which double up as beds. A bed roll including a thin mattress and blankets are housed under the seat, as are two heavy cushions or pillows. Two sheets and two pillow cases are provided by the conductress at the outset, for a small fee. Luggage can be stowed under the seats and sensibly, also in a large recess which is located within the compartment but over the corridor. There is also a small fold-away table beneath the double glazed window.

Whilst walking the length of the train it appeared that the other carriages housed at least four people in each compartment and what with their luggage, food and toiletries on display, it all looked a little overcrowded.

Food and drink. On reflection, it was certainly prudent to heed the advises given by our hosts in Vladivostok, i.e., to take extra provisions with you. That being said, most station stops were found to have vendors on the platform selling fresh food, a variety of beverages and even ice-cream, which incidentally was very good. Most of the stations also had small kiosks selling similar victuals, travel items and souvenirs

It soon became apparent that very few 'local' passengers used the restaurant facilities, other than uniformed personnel who seemed to board at one station and get off at another. The waiter on this particular journey who did not speak English proudly presented the menu written in Russian. It did not take long to realise that regardless of which item you selected, you were likely to be given the same food each time. In fairness to the red faced beaming lady who appeared from her tiny hot galley, the cooked food, if a little on the cool side, was well presented and edible. Coffee, tea and bottled water were readily available as was the Russian champagne at an acceptable price (and taste) of a negotiated 6 US\$ per bottle.

Russian card games and the more readily recognised game of chess was played in the restaurant, with one's opponent often seeking an unfair advantage by endeavouring to ply you with warm raw vodka - not recommended so far as this author is concerned.

On such a long confined journey, the washing facilities etc., are of prime importance. It has already been explained that the conductress was responsible for the cleanliness of this area and this she did in a most conscientious way. The 'bathroom' is to be found at each end of carriage and consists of a toilet and wash basin contained in an area which, although not measured, could not be greater than a meter and a half square. There is no shower. Only cold water is to be found in the bathroom, with hot water being available from the samovar situated outside at the end of the corridor.

The seven day journey was not boring, but it must be realised that the landscape travelled through over such an extended period, can but result in the scenery becoming repetitive at times. This is particularly true due to the predominance of a rolling hill type of terrain as opposed to the more spectacular mountain scenery, which was not encountered, although I am sure that such scenery must prevail in other parts of this vast country.

As already stated, the occasional game of chess, good conversation with other foreign travellers, the want to soak up the endless deserted countryside and above all, good reading material, made this a most interesting journey. The latter is most important and for those who in their home or business life, can-

not find time to read books, then this is a marvellous opportunity to get back into the habit and to concentrate on what one is reading without the normal day to day distractions. Others of course, may decide to take their lap top with them.

The arrival at Moscow's Yaroslavskaya station was somewhat of an anti-climax. Not because of our arrival into Russia's capital city with all its many impressive buildings etc., but merely because once the train had drawn to a stop, literally at the end of the railway line some nine and a half thousand kilometres from Vladivostok, the passengers alighted and almost immediately became unrecognisable as they mingled with the meeters and greeters, the vendors and the general hustle and bustle of the busy station. A sudden sense of loss of any camaraderie built up over this journey, which so far as the author is concerned, is most unlikely to be re-enacted - a once in a lifetime very interesting experience.

Rose

An elderly couple had dinner at another couple's house, and after eating, the wives left the table and went into the kitchen. The two elderly gentlemen were talking, and one said, "Last night we went out to a new restaurant, and it was really great. I would recommend it very highly."

The other man said, "What's the name of the restaurant?"

The first man knits his brow in obvious concentration, and finally said to his companion, "Aahh, What is the name of that red flower you give to someone you love?"

His friend's replies, "A Carnation?"

"No. No. The other one" the man says.

His friend offers another suggestion, "The Poppy?"

"Nahhhh," growls the man. "You know, the one that is red and has thorns."

His friend said, "Do you mean a rose?"

"Yes, Yes that's it. Thank you!" the first man says.

He then turns toward the kitchen and yelled, "Rose, what's the name of that restaurant we went to last night?"

Marine Differential GPS

Background

The General Lighthouses and Their Funding Provision

The GLAs are The Corporation of Trinity House, London for England, Wales and the Channel Isles, The Commissioners of Northern Lighthouses for Scotland and the Isle of Man, and The Commissioners of Irish Lights for the whole of Ireland. DGPS is part of the mix of aids to navigation provided by them.

The costs of the GLAs services, including DGPS, are mostly met from “user fees” known as Light Dues, charged mainly on commercial vessels and paid into the General Lighthouse Fund which is under the stewardship of the UK Secretary of State for Transport, Local Government and the Regions. There is no UK Exchequer contribution and Light Dues rates are maintained in direct proportion to the costs of the GLAs services.

The GLAs have been operating the DGPS system under trial conditions since initial implementation of the network of land-based transmitting stations in 1999. The achievement of Operational Capability comes after successful completion of validation of the system and consultation with marine users.

The Risks Of Over-Reliance On GPS

The US NAVSTAR Global Satellite Navigation System (GPS) was developed by the US Department of Defense as a worldwide all-weather navigation, positioning and timing resource for military use. It is based on a constellation of 24 or more satellites orbiting the earth that act as reference points.

US Congress passed the Commercial Space Act of 1998 on 28 October 1998 which promotes US GPS standards and

the maintenance of GPS free of user costs and encourages the elimination of any foreign barriers to applications of GPS worldwide, to expand the US role in the space radionavigation market. However, in the statement accompanying the removal of Selective Availability (i.e. removal of deliberate degradation of the accuracy) of GPS on 1 May 2000, it was made clear that the US administration is committed to preserving fully the military utility of GPS. The re-imposition of Selective Availability or other measures to degrade or remove the signal, remain options for the US in the event of a threat to national security.

There are presently no international agreements in place for the provision of GPS as a civil utility. The GPS system therefore remains fully under the direct control of the US Administration

How GPS works

GPS is a revolutionary navigation tool that fixes a position with accuracy anywhere on earth and thereby enables increased productivity, efficiency, knowledge and safety. **However, reliance on GPS without proper integrity monitoring by services such as the GLAs’ Differential GPS (DGPS), can cause physical and financial loss.**

By measuring the travel time of signals transmitted from four satellites in the constellation of 24 or more orbiting the earth, a receiver can measure its distance from each satellite and combine these measurements with the position of four satellites to calculate its latitude, longitude, altitude, course and speed.

GPS consists of three components

- the user receiver
- the satellites broadcasting signals, and
- the ground control segment.

The room for error

The Operational Control Segment consists of a Master Control Station (MCS) located in Colorado Springs. Operated continuously by US Air Force Space Command, the MCS calculates orbital and clock data and uploads this data to each satellite in the GPS constellation. Without this data, the GPS would not work because the satellites would not know their precise position in space. Monitor stations located at MCS, Hawaii, Kwajalein, Diego Garcia and Ascension serve as listening posts to receive signals from the satellites and pass the data to the MCS, where the satellite clock and orbit states are determined and used to update the navigation message of each satellite. Ground Antennas controlled by the MCS – but located at Kwajalein, Diego Garcia and Ascension – enable the MCS to communicate with the satellites.

The reliability and availability of GPS are therefore heavily influenced by :

- military options for the US Government in times of conflict;
- political aspirations of the United States to maintain its lead and influence in the development of satellite-based navigation; and
- the performance the MCS operation, the Monitor Stations, the Ground Antennas, or a combination of these (e.g. in 1992, an error was detected in the uploading of ephemeris orbital data to a satellite by the MCS, causing a horizontal position error to GPS receivers that exceeded 300 metres).

The Safety Case For DGPS

The maritime DGPS service provides a significant enhancement in the application of satellite technology by broadcasting correction signals on marine radiobeacon frequencies to assist the safe passage of all vessels, from cargo ships,

cruise liners, high speed craft to fishing vessels and leisure craft, by providing :

- real-time integrity monitoring of GPS derived positions
- accurate position-fixing in confined waters where the freedom to manoeuvre is restricted
- a positioning sensor for integrated systems such as Electronic Charting Systems, Vessel Traffic Services and Automatic Identification System.

The scope of the DGPS service

DGPS is provided as a marine aid to navigation, giving 24 hour a day, all year round, service with overlapping signal coverage up to 50 nautical miles around the coasts of the UK and ROI. The signal enables positioning accuracies of 5 metres (95% probability) or better in moving applications and even greater in stationary situations, by cancelling out most of the errors arising from normal GPS measurements. The DGPS system availability forecast is 99.8%.

The Mix of Marine Aids to Navigation

DGPS is part of a mix of traditional (visual and audible) and radionavigation aids provided by the GLAs under their joint Marine Navigation Plan for the period to 2015, following widespread consultation with the maritime community. The provision of DGPS is consistent with developments in the European and international maritime communities.

DGPS Receivers

The use of DGPS requires a receiver complying with the International Electrotechnical Commission (IEC) Standard 1108-4 (BS EN 61108-4) which may be combined with a GPS receiver; the messages provided include information about the health of the reference station and the transmitter.

DGPS Transmissions - Operational Capability

TRINITY HOUSE

NOTICE TO MARINERS

No.20/02 B6,C6,D3,E5,F4,G1. 1st July 2002.

Mariners will be aware that the unencrypted Public Differential Global Positioning System (DGPS), provided by the General Lighthouse Authorities of the United Kingdom and the Republic of Ireland (GLAs) has operated on a trial basis during validation of the system. Validation has now been successfully completed and Operational Capability achieved.

DGPS is provided as a marine aid to navigation, giving 24 hour a day, all year round service with overlapping signal coverage up to 50 nautical miles around the coasts of the United Kingdom and Republic of Ireland.

The signal provides the mariner using a suitable receiver with both real time integrity monitoring of GPS derived positions and the capability of fixing their positions to better than 5 metres (95% probability) in moving applications. Greater accuracy can be achieved in stationary applications.

All mariners are advised:

1. DGPS relies inherently on GPS, the operation and characteristics of which are outside the control of the GLAs.
2. The DGPS service is provided primarily for use in monitoring the integrity of GPS to enhance the safety of marine navigation. The provision of greater accuracy for marine navigation is a secondary feature.
3. Signal reception may become unreliable, under certain extreme environmen-

tal conditions, towards the limits of the geographical coverage.

4. All radio navigation systems are susceptible to interference (including jamming) and environmental effects, which can adversely affect their availability. The GLAs strongly advise that no single aid to navigation system should be used in isolation and that DGPS users should use all alternative means available to cross check the information received. Users should also ensure that they have a receiver which gives sufficient warning of the complete loss of the DGPS signal and reversion to GPS.

5. Various DGPS receiver types are available, some of which may not provide appropriate or timely warnings in respect of the system.

6. To keep the DGPS receiver referenced to WGS84 Datum. If the appropriate nautical chart is not referred to WGS84 Datum, then the position shift values denoted on this chart should be applied.

7. To contact the suppliers of their receivers for guidance on system installation, as incorrect siting and installation of aerials can cause interference thus leading to a degradation to the coverage, accuracy and availability of the service received by the user.

8. Reference should also be made to volume 8 of the Admiralty list of Radio Signals.

Some Thoughts

There are only 10 types of people in the world. Those who understand binary, and those who don't.

Artificial intelligence is not match for natural stupidity.

Whoever does not love his work cannot hope that it will please others.

Near Miss in Dover Strait TSS

Narrative

The 6,391gt reefer vessel, Saratau, was proceeding in the south-west bound lane of the Dover Strait TSS on a course of 227°.

Another reefer vessel, the 4,574gt Polestar, was in the opposite lane and heading north-east, but bound for the pilot station off Dover. To achieve this she made her heading 350° to cross the TSS. It was not an uncommon situation.

Saratau first detected Polestar at a distance of 6 miles, and determined that a risk of collision existed. As the stand-on vessel in accordance with Rule 17 she maintained her course and speed. She was watching Polestar carefully and expected her to take avoiding action.

By the time the distance between the vessel had reduced to approximately 1 mile, the bridge team onboard Saratau had become very concerned that the other vessel appeared to be doing nothing to give way. She tried, first, to attract the other vessel's attention by using sound signals in accordance with Rule 34(d), then by VHF radio, channel 16.

As the distance between the vessel continued to close, Saratau altered course to port. Polestar, the give-way vessel, eventually reduced speed and then stopped her engines.

The vessels passed each other as a distance of 1 cable/ Polestar passed ahead of Saratau.

The Lessons

The situation described above is all too familiar. Two vessels are approaching one another in such a manner that risk of collision exists. The watchkeepers on the stand-on vessel are watching the other one carefully, and start to become anxious

when the other one appears to be doing nothing to give way. Too many of us have vivid recollections of such occasions. CPAs of about a cable tend to expedite old age.

1. In this instance, Polestar was the give-way vessel in accordance with Rule 15 and should have taken effective avoiding action. She didn't. the Rules are quite clear: with Saratau on her starboard side, and a risk of collision existing, she was required to keep out of the way. She could have altered to starboard in good time, or even slowed down. She did reduce speed eventually, but it was far too late. And to add insult to injury, she passed ahead of the stand-on vessel.
2. Vessels obliged to keep out of the way must always consider what the watchkeeper in the stand-on vessel is thinking. Common courtesy and good seamanship demand that you make your intentions clear at an early stage. Rule 16 is, in the meantime, unpromising in its bluntness. As the fourth-shortest Rule in the book, even the most inexperienced watchkeeper should know it off by heart: "Every vessel which is directed to keep out of the way of another vessel shall, so far as possible, take early and substantial action to keep well clear."
3. The Dover Strait is one of the world's busiest waterways, and the watchkeeper of any vessel crossing the lanes must have their wits about them. One of the most important priorities is to determine whether risk of collision exists. Needless to say, this requires a good lookout as the most basic of all watchkeeping duties.
4. Saratau's watchkeeper was obviously becoming very anxious as the two vessels closed, but even he left it very late before taking action to avoid a collision. He had several options open to him and, with one exception, the Rules

leave the choice to the watchkeeper. The exception is the directive not, "so far as the circumstances of the case admit, alter course to port for a vessel on her own port side." It is not known why Sarartau altered course to port but it only served to aggravate the situation.

5. There is always a temptation to look for some acceptable explanation for the actions taken in such situations, or to blame the 'other' vessel. There might well have been some unknown reason for the actions taken on this occasion, but the point is made that we all have a responsibility to avoid collisions. We must learn from incidents such as this, and realise that this close quarters situation was very nearly an expensive accident. Had there been one, there would have been no excuse.

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The IALA Vision

The following is taken from a draft paper produced by the IALA VTS Committee during September; its ultimate purpose is to provide a vision for the future of Vessel Traffic Services. It will be further refined at the next meeting scheduled for March 2003. Members with an interest in this subject are invited to consider the text and **provide feedback to IFSMA** for input into the process of refining the Vision. It should be noted that IALA has a significant technical, operational, personnel and training input into IMO where VTS matters are concerned.

Drawing on the work currently being undertaken to develop the IALA Strategic Plan, the VTS Committee agrees that the following trends in overall maritime operations and management are likely to occur:

- * Ship design and technology will continue to evolve.
- * Commercial pressures will demand ever-rapid transportation and cargo handling schedules.
- * Heightened international security concerns will have an impact on maritime trade processes.
- * Environmental standards will continue to acquire ever-higher stringency and priority.
- * Professional competency of marine personnel will vary, notwithstanding the adoption of international standards.
- * The pursuit of standardisation will continue, particularly on a regional basis.
- * The volume of information being exchanged among ships and shore organisations will increase.
- * The use of formalised and more effective systems to manage quality and safety at sea and in ports will increase.
- * Advances in technology will necessitate an expanding requirement for trained work forces.
- * Coastal and inland waterways will be increasingly used for recreational and other purposes. In addition, inland waterways will increase their environmental attractiveness as methods of transportation of goods and passengers.
- * Co-ordination of port services will become increasingly important in the interests of safety where such services may be obtained from alternative sources.

These overall maritime trends are likely to lead to the following consequences for VTS:

- a) Where VTS areas exist in geographical proximity to one another, the formation of VTS regions will occur.
- b) Automated systems for the effective management of the high-density data transfer between ships, VTS Centres and VTS Regions will become an increasing requirement.
- c) Advances in technology will make possible the detection, identification, and precise tracking of vessels outside existing VTS areas. Such information will increasingly be used by VTS as well as "allied services" for non-VTS purposes.
- d) Comprehensive and effective risk assessment will increasingly become the basis for the safe management of navigation, including by means of VTS.
- e) As the quality and accuracy of vessel tracking improves, the option to "control" vessel traffic by means of "directions", rather than passing information and advice, will possibly be used more widely as a mechanism for reducing risk.
- f) The "control" of vessels by VTS Centres is likely to bring with it a greater liability.
- g) The need to assure and certify the competency of VTS operators and supervisors in order to reduce any exposure to increased liability is likely to add to the scope and priority of such training.
- h) The need to manage recreational and other small craft by VTS and other means in order to ensure the safety of navigation in areas where commercial and high-density recreational traffic co-exist is likely to increase.

In contributing to the development of a high-level "IALA Vision", the above may

be distilled from a VTS perspective into the following:

"IALA recognises that the trends in maritime operations towards enhanced safety, security, efficiency, accountability and environmental responsibility, together with anticipated technical advances, will result in significant future change. As a consequence, IALA will monitor these trends and developments constantly for any impact on the use or management of aids to navigation, including VTS. Where appropriate it will also influence debate, and produce relevant recommendations and guidelines."

Conference Resolution

THE QUALITY SHIPPING CONFERENCE 2002, having met in Copenhagen, Denmark on 10 and 11 July 2002,

NOTING resolution A.850 (20) on Human element vision, principles and goals for the International Maritime Organization, adopted by the Organization in 1997,

NOTING ALSO the resolution on substandard shipping adopted by the Joint Maritime Commission of the International Labour Organization in January 2001,

NOTING FURTHER the report "Ships, Slaves and Competition" from the International Commission on Shipping,

ALSO NOTING the Policy Statement on Substandard Shipping by the Maritime Transport Committee of the OECD,

FURTHER NOTING the Ministerial statement on Prevention of Marine Pollution – Cleaner Sea through Quality Shipping, made in Tokyo, Japan in January 2002,

RECOGNIZING the efforts by the International Labour Organization in the creation of international maritime labour standards,

BEING AWARE of the importance of all parties in the maritime community working together in the creation and maintenance of a maritime safety culture,

HAVING NOTED the outcome of related conferences and seminars,

DESIRING to actively promote quality shipping,

1. ADOPTS the Conclusions of the Conference, set out in the annex to this resolution;
2. URGES all parties in the maritime community to take all necessary step to create, maintain and further a maritime safety culture;
3. URGES ALSO the International Maritime Organization and the International Labour Organization to continue and intensify their work relating to quality shipping, and, in the work, take this resolution and its annex into consideration; and
4. REQUESTS the Government of Denmark to bring this resolution and its annex to the attention of the International Labour Organization.

Conclusions of the Conference

The Role of the Flag state

1. It is vitally important that vigorous and effective global regulatory institutions are maintained relative to a global maritime industry. In that respect flag states should actively support the efforts of the International Maritime Organization to ensure effective and consistent global application of safety and environment instruments, the efforts of the International Labour Organization to ensure decent working and living conditions for seafarers, and the efforts of both organizations to enhance security in the

maritime sector. In this respect the efforts of other relevant intergovernmental organizations should be taken into account.

2. Flag States should actively support the development and the effective implementation of an IMO Model Audit Scheme.
3. Flag States should, in a timely manner, investigate any case where a ship under their flags has, to their knowledge, fallen short of required international security, environmental and social standards and take prompt enforcement action to remedy the situation.
4. Flag States should in accordance with international obligations carry out or ensure independent and authoritative investigation of serious accidents to ships under their flags and seafarers on board their ships.
5. Flag States should collaborate to develop and apply measures of implementation, performance and models of best practice, assisting each other through regular dialogue and sharing of experience.
6. Flag States should promote and participate in dialogue and information sharing with other partners in the responsibility chain, from the operators of shipping to the users, financiers, insurers and seafarers.
7. All States should respond promptly to comments or complaints received from other Maritime Administrations, whether as flag, coastal or port states.
8. Flag States should ensure that ship-owners are responsible for making available to the seafarers the applicable laws, regulations and, where appropriate, collective agreements addressing their working and living con-

ditions and should, in accordance with national law and practice, ensure that they are enforced so that seafarers have decent and safe working conditions.

9. Flag States should take appropriate action, aimed at ensuring the validity of the certificates of competence for seafarers on board their ships.
10. All states should support proposals on technical assistance to states which have the will to improve their performance as a Flag State.
11. All relevant parties should develop initiatives to enhance quality shipping, in particular incentives for quality operators.

Decent Working and Living Conditions for Seafarers

1. All parties should realize the vital importance of decent working and living conditions for seafarers being integrated in the concept of quality shipping.
2. All parties, being aware of the structural changes in the industry, should work for a new approach on global living and working conditions, including global enforcement.
3. All relevant parties should engage constructively in the process initiated by the International Labour Organization aimed at designing and promoting a single, consistent international maritime labour standard, incorporating as far as appropriate the substance of current international maritime labour standards, so as to deliver decent working and living conditions for seafarers and a level playing field for quality operators.
4. All shipowners should provide and be responsible for safe and decent working conditions for seafarers they employ or engage.
5. In order to effectively exercise its jurisdiction in social matters, every State shall have a sound maritime administration with a firm legislative framework complying with, as a minimum, international labour standards, and a strong enforcement mechanism.
6. All States should have in place the necessary mechanism for monitoring working and living conditions on ships visiting their ports, in accordance with international instruments in force.

The Human Element

1. All relevant parties should promote and communicate, through human element principles, a maritime safety culture and heightened marine environment awareness.
2. Shipping companies should create or, when it already exists, further develop an open culture where seafarers can report accidents, incidents and near misses, without fear of recrimination. This should be supported by legislative action.
3. All relevant parties should work for a wide promulgation of the results from investigations of accidents and the analyses of causation.
4. The human element efforts of new technology should be closely examined by all relevant parties and solutions provided, e.g. in the form of common user interfaces for electronic equipment.
5. All relevant parties should promote the maritime industry as an attractive career option in order to be able to recruit a sufficient number of qualified and competent seafarers.

6. All relevant parties should work together to create a platform where the results of existing studies and proposals for future studies should be evaluated. Such studies should address the question of what constitutes a “safe, healthy and environmentally friendly ship” taking into account human factors.
7. All relevant parties should work for a better integration of the ISM Code in the safety culture on board and in the shore based operation which could enable administrations to concentrate their efforts on substandard ships.
8. All relevant parties should work for a reduction in the number and scope of on board commercial vetting inspections in order to reduce, as much as possible, the workload imposed on ships’ masters and officers.
3. Appropriate footwear must be worn. Flip-flops are great for the shower, but can be a death trap when moving around a ship.
4. Don’t carry heavy loads on stairways or ladders, and always try to hold on to a handrail with at least one hand. If you need to move a heavy load between decks, don’t try and do it yourself – get somebody to help.
5. Slipping, tripping and losing one’s footing increases with alcohol consumption. On a ladder or stairway, however, the consequences can be more severe than just a hangover!
6. Other than in emergencies, never run up or down ladders or stairways.
7. Don’t get distracted when negotiating a ladder or stairway, and always watch where you are treading. How many of us have thought we were past the last step, but were not, and ended up stumbling at the bottom?
8. Consideration should be given to closing off the upper accesses to ladders and stairways when not in use or in rough weather.
9. When using vertical ladders, always face the ladder and make sure only one person is on it at a time. Footprints across fingers can be irritating!
10. Many passengers are elderly, disabled or just unfamiliar with a ship’s movement. You might be able to manage the stairways OK, but can they?

Eighty Two People Fall Down Ladders or Stairways

Narrative

This article differs slightly from those normally published. It summarises a number of accidents involving death or injury caused by falls from ladders and stairways. They were all reported to the MAIB between May 1999 and May 2001. Although these areas are potentially dangerous in any environment, they can be particularly hazardous on ships, and require certain precautions and care to be taken. All the accidents reported were preventable.

The Lessons

1. Ladders and stairways must always be well lit, fitted with non-slip treads and, where possible, equipped with a handrail on both sides.
2. Wet stairs and ladders are dangerous. Proceed with caution.

MAIB Safety Digest 2/2002

Some Thoughts

Anything free is worth what you pay for it.

All those who believe in psychokinesis raise my hand.

Meeting on Nautical Charting and Nautical Publications

Notes of the Meeting held on 9th August 2002 at 12 Carthusian Street, London EC1M 6EZ.

1. The Chairman opened the meeting by welcoming all those present (a list of attendees is attached). He explained that the meeting had been suggested by Admiral Guy as a means of strengthening the link between IHO and shipping industry users of hydrographic products.

IHO Introduction

2. Admiral Guy introduced a number of problems perceived by IHO. Although IMO has more 160 member States only 70 of them belong to IHO, this has created some problems for the world folio compilers (France, Russia, United Kingdom and United States). Despite the general understanding that local survey data should be passed to other hydrographic offices this is not always done in a timely fashion. The growth in importance of digital products and their recognition in SOLAS V had changed the commercial approach required by hydrographic offices and demanded endorsement by the nation States involved. Production and distribution problems were also mentioned. He summed up by saying that there was a need for liaison with the shipping industry at a level above the purely technical where IHO could, for example, give presentations on product types.
3. Recognising some limitations in customer liaison, the IHO Strategic Planning Working Group (SPWG), under the chairmanship of Cdr Klepsvik, wanted to identify the actions needed,

including a current lack of prioritisation for hydrographic survey effort and a lack of understanding by national authorities on the role played by chart products in the national economy. There was also a problem with the availability of some hydrographic products and notably in ENC coverage.

Shipping Industry View

4. Captain Stoel introduced the shipping industry view by reviewing problems associated with the introduction of electronic charts. He highlighted a lack of liaison between national hydrographic offices and shipowners. The current transition to vector charts from the raster versions was causing particular problems in the Netherlands where the Administration required the S57 format, in accordance with IMO requirements but further required the 'dual fuel' system where S57 charts were not yet available. The Administration appeared to be ignoring the fact that S57 charts were not yet available for many areas and could not understand why more investment was required in the system when, according to IMO, S57 products were available. He noted the high cost of S57 charts but agreed that the cost was starting to fall. He went on to discuss the arrival of integrated bridge systems and the need to consider carefully the successful integration of electronic chart systems in these new designs.

Captain MacDonald reminded the meeting that the paper chart correction system had not been foolproof but that the flow of information through Notices to Mariners and Hydrographic Notes had been a successful link between the producers and the users. He urged the use of caution in the transition period to electronic versions and particularly highlighted the lack of stand-

ardisation in bridge equipment and reinforced the need for a comprehensive approach to training. Captain MacDonald also informed the meeting of the forthcoming Nautical Institute, IFSMA, the Honourable Company of Master Mariners and Trinity House sponsored 'Command Seminar' and undertook to investigate an invitation for IHO to attend the meeting.

Captain MacDonald agreed to investigate an invitation for IHO to attend the Command Seminar.

It was agreed that IHO should produce some briefing material on a range of electronic chart issues where the shipping industry appeared to lack information.

General Discussion

5. The background information provided a starting point for general discussion. Admiral Guy underlined the problem of the increasing use of technology and interfacing electronic chart systems in such areas as the integrated bridge and AIS. Captain Rahim called for an open-minded approach to ENCs, there was still a justifiable reliance on paper charts but a growth in the use of ECDIS. He welcomed the increasing inclusion of tidal and current information on charts. He was able to illustrate the problem where local hydrographic information failed to be made widely available to world folio compilers, from his work in investigating maritime incidents. Captain Snape agreed that there was a need to prioritise hydrographic survey effort and to improve training for chart users. Admiral Guy explained that whilst ECDIS was first and foremost a navigation system it also opened the door to much wider carriage of supplementary information such as weather, tide and current and an indication of sea areas where additional caution might be required as in the case of piracy risk.

Cdr Klepsvik underlined the problem of the age of the hydrographic survey and the cost of updating the survey to modern standards. This meant that areas for re-survey required prioritisation and in his view the shipping industry had a role to play in assisting with prioritisation work. There was general agreement that the shipping industry could gather information to identify areas where mariners were not well served by existing charts. It was also felt that national shipowner associations had a role to play in informing their own Administrations of chart and survey shortcomings.

It was agreed that IFSMA would approach the Nautical Institute with a view to gathering data on chart and survey shortcomings. ICS agreed to provide assistance in this work.

ICS agreed to contact member national shipowner associations on the subject of chart and survey requirements to be discussed, as appropriate, with Administrations.

6. Dr Williams gave a roundup of hydrographic issues from the UKHO perspective. He reported that ENCs can be produced from the existing survey data but that clearly these would be to the same standard as the corresponding paper chart. However the ENC version could carry significant additional data. Noting the lack of ENC availability he believed that production of ENCs would start to accelerate. The anomaly with the use of multi-beam sonar was that although the survey time at sea was reduced by a factor of ten, the shore analysis effort now took ten times as long due to the vast amount of data produced. He noted that only 250 ships are believed to be fitted with ECDIS although this number will now start to grow significantly. Hydrographic offices are continuing to standardise to the WGS 84

datum but this was also a slow process. The growth in the popularity of cruises to remote areas, particularly the Antarctic, revealed that some priority should be accorded to the survey effort in these regions, however, the wisdom of visiting such remote areas where surveys were very old and often cursory was called into question.

Future Liaison Meetings

7. IHO and industry representatives believed that the meeting had been fruitful and that there was a need for a continuation of the discussion and to review actions identified. It was felt appropriate to widen the scope of the group and ideas for suitable additional invitees would be welcome.

Attendees were invited to forward ideas for additional attendees to ICS and to consider the idea of holding a follow-up meeting in May 2003. A proposed date will be forwarded once the IMO programme for 2003 is promulgated.

Auditing Systems

The following article is interesting given the IFSMA ISM project the Secretary General refers to in his article (see page 2). This is what others in the shipping industry are saying about the present ISM regime. It is taken from 'Flashlight' a monthly Newsletter for Marine Surveyors distributed free of charge. If you would like to know more about it or be placed on the distribution list – send an email to Mike Wall at <mikewall@netvigator.com> who is the author of this article.

Large organisations around the world are required to have their various systems audited with a report usually going to a statutory body. One particular body employed its auditors as consultants to help with managing their systems. Unfortu-

nately for this company, the auditors had been helping them to do some creative accounting and the company ended up being one of the biggest failures ever.

Sound familiar? Yes it was Enron and it looks like Worldcom will be going the same way shortly. As a consequence a lot of people lost a lot of money and the US Government introduced legislation to bring those responsible to justice and hopefully prevent it from happening again.

The interesting thing about this situation is that there are lots of analogies that can be drawn with the current state of ISM enforcement.

There was recently the case of a cruise ship being detained in a Southern English port by Port State Control inspectors, many serious deficiencies having been found. All involved in the ISM system disclaimed any responsibility for the situation, not least being the vessel's Classification Society. More seriously, there have been a number of ship losses and serious accidents with the same result. Nobody prepared to take responsibility and denying liability.

So what are the similarities and differences between the Enron scandal and recent shipping scandals? In both cases it would appear that consultancy firms which were part of the auditing organisation had been used to advise on the systems. Supposed independent auditors paid by the auditee company, working to statutory guidelines, were used to audit the organisation's systems, some being trained by their own company.

There are a number of differences between the two cases. The Enron case involved the company's accounts and finances resulting in shareholder losses, whereas the ISM failures have involved losses of ships, crew lives and pollution of the environment incurring heavy financial losses. The Enron case was exposed to the full

glare of the media, while ISM failures seem to be brushed under the carpet. The Enron case took place in one country whereas ISM failures are an international problem. This meant that those people responsible for the Enron and WorldCom failures could be brought to book because the USA Government is answerable to the American people. Those involved in ISM failures appear to be above prosecution and can claim no liability, eg, the Classification Societies, Flag States, Classification Societies and Shipowners appear to be answerable to nobody.

Before the implementation of ISM, the independence of Classification societies who are funded by shipowners, was questionable. 'He who pays the piper calls the tune' and as a consequence there was a bond between the two. Since Flag States became responsible for the certification and auditing of ISM systems, an eternal triangle has been formed with bonds between the three parties, due mainly to the fact that the shipowner pays the other two for their services.

This system has been abused by some in the industry to its advantage and to society's disadvantage. The aim of the code was to have independent external auditing of shipping management systems to ensure that such systems are being operated in an appropriate fashion.

There is clearly a need for change in the industry. The Code requires not only independent auditing, but equally importantly, auditing by those persons who are skilled and experienced in specific technical, operational and management areas of shipping. Many Class Surveyors have been recruited directly from university with no seagoing experience, having little experience in the operational and managerial aspects of shipping. IACS has stated that the safe operation of ships and protection of the environment depend on the ship and its equipment being "structurally and mechanically fit for purpose"

and it is the function of Class to ensure this. Class should stick with carrying out the technical and structural surveys of vessels and leave auditing to those with the requisite skills and who are truly independent.

All is not well with the shipping industry and that there is clearly a need for change. Does the fact that Class carries out ISM consultancy, certification and auditing of systems which include their own statutory certification of hull and machinery suggest that there will be a change? Clearly not. It merely serves to endorse the belief that Class wish to extend and protect their activities without any external scrutiny.

It is time for an independent international body to be established to carry out ISM auditing, but who, and reporting to whom? Failing any such authority, it would appear that Port State Control inspectors are the last line of defence. However, PSC inspectors are generally public servants who work 9-5 with weekends and enforced public holidays. Simple calculations will show that ports are protected for approximately 23% of time available. It is clear that Port State Control needs to be beefed up to detect the transgressors and show those who choose to ignore international standards that they will suffer the consequences.

World Maritime Day

IMO - Safer Shipping Demands a Safety Culture

The 26th September 2002 marked the 25th celebration of World Maritime Day, the annual event which is used around the world to focus attention on the global importance of the maritime industries to world trade and to emphasise in particular IMO's work to promote safety and security in shipping and to help protect the marine environment.

IMO Secretary-General William O'Neil delivered his customary message to coun-

tries all over the world on the chosen theme for World Maritime Day and, in recognition of the 25th anniversary of the event, gave a special address to staff at IMO Headquarters in London.

Although the international shipping industry remains one of the most technically vibrant and innovative businesses in the world today, the focus for those who are concerned with safety at sea is being placed ever more sharply on all aspects of human behaviour. That was the overriding theme of the message delivered by Secretary-General O'Neil.

Expounding on the theme "Safer shipping demands a safety culture," Mr O'Neil drew attention to the fact that rules and regulations are not in themselves sufficient where safety and environmental protection are concerned. "Although the behaviour of individuals may be influenced by a set of rules," he said, "it is their attitude to the rules that really determines the culture. Do they comply because they want to, or because they have to? To be truly effective in achieving the goal of safer shipping, it is important that the shipping community as a whole should develop a 'want-to' attitude."

He went on to stress the key responsibility of company management in establishing the appropriate corporate culture. "If the management is clearly seen to be giving safety the highest priority then that mindset will quickly permeate into the chain of command, from the Board Chairman through the directors, the superintendents, to the ships' officers and crews. The message that an effective safety policy is considered to be a major contributing factor to the organization's overall productivity, vitality and profitability will then be readily assimilated by everyone."

In his special message to IMO staff to mark the 25th anniversary of World Maritime Day, Mr O'Neil drew attention to the continuing decline in lives and ships lost

at sea and to concurrent reductions in maritime pollution. He said that the world looked to IMO for leadership in all matters related to maritime safety and environmental protection and that he believed the Organization could feel proud that it was fulfilling its objectives and meeting the increasing demands made of it. "An international industry such as shipping needs an effective international regulatory body and IMO has shown it can meet all the challenges that have arisen in this respect."

In particular, he referred to the considerable body of additional work undertaken by IMO since the terrorist atrocities of September 11th 2001 to establish an effective regulatory framework to promote ship and port security. A diplomatic conference in December this year is expected to adopt legislative requirements that have been developed by IMO throughout the course of the last 12 months.

World Maritime Day celebrations were concluded at IMO's London headquarters on Thursday evening with a reception for members of the London diplomatic and maritime communities, IFSMA was represented at this event.

Ingress Alarms

The following is an extract from an important document submitted by the UK and Belize Governments for consideration by the next Maritime Safety Committee and shows how IMO works to maintain safety standards. The shipmasters, through IFSMA, also have a vital role to play at IMO, for example at this meeting IFSMA is submitting a paper, in association with BIMCO, concerning the inclusion of Bulk Grain cargoes in the Bulk Carrier Code, which is considered to be a serious omission. IFSMA will also provide support and input for many other submissions.

During the Secretary General's recent visit to Singapore some concerns were expressed about this Ingress Alarm proposal, e.g. if the system malfunctions how does the Master know? Whether IFSMA supports or challenges this intervention will depend on any views from members - please let us know.

Proposal for the fitting of water ingress alarms in new, single hold dry cargo vessels Submitted by the United Kingdom and Belize

SUMMARY

Executive summary:

Following the investigation into the loss of the m.v. **Rema** in 1998, this paper proposes the fitting of water ingress alarms to all new, single hold dry cargo ships of 500 gross tonnage and over.

1 The following proposal is submitted in accordance with the Guidelines on the organization and method of work of the Committee (MSC/Circ.931). The format of this submission is in accordance with appendix 2 to the Guidelines.

Scope of the proposal

2 Following the loss of a single hold dry cargo vessel, the Administrations of the United Kingdom and Belize consider that vessels with an insufficient number of watertight bulkheads to meet either a deterministic or probabilistic standard of subdivision represent a higher risk of foundering than other dry cargo ships that satisfy the requirements of SOLAS chapter II-1 part B-1. For new ships, SOLAS chapter II-1 part B-1 applies to ships of 80 metres in length and upwards.

3 It is proposed that the safety of such ships will be enhanced by providing water ingress detection in the form of water ingress alarms.

Need for the proposed measure

4 The United Kingdom's Marine Accident Investigation Branch (MAIB) report, "Report of the Inspector's Inquiry into the loss of the m.v. **Rema** with the loss of four lives on the 25 April 1998 about 22 miles north-east of Whitby, North Yorkshire" details the circumstances relative to the loss of a single hold dry cargo ship. The report con-

cludes that slow flooding of 769 tonnes of sea water into the single hold during the hours of darkness probably caused the m.v. **Rema** to founder. It is unknown how she flooded, or over what period of time the flooding occurred. An underwater ROV survey showed the vessel sitting on the seabed in an upright position with soft seabed impact damage to the bow plus implosion damage to the forecastle, hatch covers and hold, and wheelhouse. A copy of the report can be obtained from the MAIB, 1st Floor, Carlton House, Carlton Place, Southampton, SO15 2DZ, UK.

5 The vessel was a riveted steel hulled, single hold, motor driven dry cargo vessel, with engine room and accommodation aft and a raised fore-castle. She was lost in fair weather in international waters, 22 miles north-east of Whitby in the North Sea.

6 It is believed that the foundering of m.v. **Rema** may have been prevented had the slow ingress of water been detected sooner, allowing the master and his crew to take appropriate action. At the very least the early identification that the vessel was flooding may have resulted in all the crew being saved.

Analysis of the issues, including consideration of the costs to the marine industry and the associated legislative and administrative burdens

7 It is proposed that SOLAS regulation II-1/21.3 should be amended to require the fitting of water ingress alarms to all new, single hold dry cargo ships of up to 80 metres Ls (as defined in SOLAS chapter II-1 part B-1) and 500 gross tonnage and over, except where watertight side compartments are fitted each side of the hold, such as are commonly found on ore carriers and dredgers. An audible and visual alarm should be positioned on the bridge, engine-room or a central control station provided that on vessels with periodically unattended machinery spaces, the alarm should be installed on the bridge.

8 The installation of water ingress alarms and water ingress detectors may be based on the IACS Unified Requirement (UR) S24. However, noting the size of these single hold dry cargo vessels, it is considered that the water ingress detectors should perhaps be arranged to detect water at 600mm above the inner bottom rather than at 2

metres above the inner bottom as specified in UR S24.

9 The proposed water ingress alarms could be combined with bilge water level indicator systems, where fitted.

10 It will be recalled that SOLAS regulation XII/9 refers to bulk carriers of length greater than 150 metres that have been constructed with an insufficient number of transverse watertight bulkheads to satisfy SOLAS regulation XII/4.2. Such vessels are required to be provided with high level alarms in the bilge wells of all cargo holds giving an audible and visual alarm on the navigation bridge. This requirement recognises the fitting of water ingress alarms as a safety measure to compensate for deficient internal subdivision.

11 Furthermore, the Formal Safety Assessment "Fore-end watertight integrity" paper submitted by IACS (MSC 74/5/4), evaluated a number of risk control options aimed at preventing or mitigating fore-end flooding scenarios. The paper concluded that IACS would further consider the requirement of water ingress alarms, giving continuous reading of water level in any cargo hold or the forepeak, for both existing and new ships of length 150 metres and over. It also suggested that water ingress alarms for smaller ships should be considered in future work.

12 The "Formal Safety Assessment of Life Saving Appliances for Bulk Carriers" paper submitted by Norway and ICFTU (MSC 74/5/5) considered the fitting of water level alarms to monitor water ingress in all holds and the forepeak. The cost effectiveness of each risk control option considered was evaluated and it was concluded that water level alarms with continuous water level indication in all holds and the forepeak for new and existing bulk carriers could be recommended.

13 Legislative burdens will include drafting and adopting the proposed amendment to SOLAS. In some cases, it may be necessary to incorporate the amendment into national regulations. Little increase in the administrative burden is anticipated, noting that many of these types of ships are already fitted with water ingress water level indicator systems that are already the subject of inspection, survey and testing (see paragraph 9 above).

Benefits which would accrue from the proposal

14 A number of risk control options were considered in the papers outlined in paragraphs 11 and 12 and were evaluated on a basis of gross cost of averting a fatality. The studies found the fitting of water ingress detectors to be one of the most cost effective risk control options in the context of bulk carriers. These conclusions are believed to be equally valid for single hold dry cargo vessels.

15 Proper monitoring of water ingress also has safety implications for the carriage of certain bulk cargoes such as those whose angle of repose is a function of moisture content or those which exhibit liquefaction at high moisture levels.

Priority and target completion date

16 The consideration of this new work item is considered to be high priority as it proposes a measure to prevent maritime casualties, the associated risk to the marine environment and enhance the safety of ships' crews. In the opinion of the United Kingdom and Belize, the measure also corrects a significant inadequacy in the existing SOLAS requirements (see paragraphs 2 and 10 above). Specifically it addresses sub-paragraphs 5.2, 5.5 and 5.6 of appendix 1 to the annex of MSC/Circ.931, which are indicative of high priority items. It is proposed that the necessary amendment to SOLAS should be considered by the Sub-Committee on Design and Equipment, initially at DE 46. It is anticipated that the issue will require two sessions to be finalised although a significant amount of relevant work has already been undertaken regarding the fitting of water ingress alarms to bulk carriers.

Specific indication of the action required

17 The Sub-Committee on Design and Equipment should be instructed to develop an appropriate amendment to SOLAS regulation II-1/21.3, based on the proposal outlined at paragraph 7 above for new single hold dry cargo ships.

Is the subject of the proposal within the scope of IMO's objectives?

18 The proposal is within the scope of the objectives of IMO as it aims to enhance the safety of single hold dry cargo vessels of 500 gross tonnage and over - SOLAS regulation I/3(a)(ii).

Do adequate industry standards exist?

19 Paragraph 8 above notes that the installation of water ingress alarms and water ingress detectors may be based on the IACS Unified Requirement S24. However, no international mandatory requirement is known to exist regarding the fitting of such equipment to single hold dry cargo ships.

Do the benefits justify the proposed action?

20 Paragraph 10 above notes that the fitting of water ingress alarms is already a requirement for bulk carriers of length greater than 150 metres that have insufficient internal subdivision. This recognised safety enhancement should be extended to single hold dry cargo vessels.

21 The Formal Safety Assessment work outlined in paragraphs 11 and 12 identified the fitting of water ingress detectors as a cost effective risk control option for bulk carriers. It is believed that the conclusions would be applicable to single hold dry cargo vessels.

Identification of which Committee/Sub-Committee(s) are essential to complete the work

22 As detailed in paragraph 16 above, it is proposed that this new work programme item should be considered by the Sub-Committee on Design and Equipment and it is expected that it will take two sessions to complete. The Committee may wish to instruct the Sub-Committee on Dangerous Goods, Solid Cargoes and Containers (DSC) to provide advice on the operational aspects of fitting such alarms.

Action requested of the Committee

23 The Committee is invited to:

- .1 add a new high priority item on *Fitting of water ingress alarms in new, single hold dry cargo vessels* to the work programme of the DE Sub-Committee;
- .2 instruct DE 46 to start discussions under 'Any other business'; and
- .3 instruct DE 46 to select this item for inclusion in its provisional agenda for DE 47.

Shore Leave in USA

The following US Coast Guard advice on seafarer ID was received from BIMCO.

On 11 September 2002 the Steamship Association of Louisiana circulated advice that was received from the local Coast Guard addressing the issue of acceptable seafarer identification. According to information submitted to the association, the Coast Guard headquarters in Washington DC indicated that the Coast Guard Commandant did not intend to keep foreign mariners from leaving their ships. Furthermore, it was expected that the Coast Guard would soon be issuing advice in the form of guidance to port captains to accept foreign seafarers' credentials that:

- are laminated or otherwise tamper proof,
- contain the subject's full name and photograph,
- bear the name of the issuing authority, and
- are acceptable to the Captain of the port.

On this basis the association believes that foreign passports and perhaps similar documents should be acceptable to port captains, but also notes that the fourth condition gives broad options to the port captains that could lead to significant inconsistencies between ports.

Whilst this development can be seen in a positive light in the aftermath of the industry appeal to the US Immigration and Naturalisation Service (INS), it is based, however, on clarifications circulated by the Coast Guard on 7 August 2002. Furthermore, the absence of any reference to valid visas (or lack of same) or the assignment of private security guards to ships indicates that further efforts will be required before mutually acceptable and workable arrangements can be implemented.

