News & Views

Newsletter of the Nautical Institute

- New Zealand Branch -

May 2005, Issue 97

CHAIRMAN'S MESSAGE

Once again my contribution to the Newsletter is being made from overseas. ENDEAVOUR is currently alongside in Singapore having her lifeboats changed out. It is interesting talking to the industry personnel here because it is clear that the level of current professional expertise is very prevalent and bodes well for a successful swap. You will all see the Lifeboat questionnaire which is being distributed with this Newsletter. I encourage you to make your contribution because I believe we have an important part to play in ensuring that we maintain professional standards in the industry as well as keeping our people safe.

I have been pleased by the reduced number of pirate attacks which have taken place so far this year. The NAVTEX printer has been surprisingly short of reports. The presence of Malaysian and Singaporean Naval patrol boats in the Straits and outlying regions may be beginning to have an effect. I was sorry to have been absent for the visit of Julie Lithgow as it would have been good to have heard about the Institute's long term plans. I am sure that she was made to feel very welcome and I hope that all those who made the meeting gained value from it.

I wish you all the best for the May meeting and would like to thank you all, in advance, for your contribution to the lifeboat survey

Yours Aye

David Hedgley, FNI

BRANCH PROJECT

Our lifeboat lowering project is slowly taking shape. Thank you for the nine reactions that we have received until now, this includes a special mention for both the Wellington and Christchurch branches of the Company of Master Mariners. Of the reactions so far we have received seven in full support of the statements published in News and Views, one is neutral and one in full support of IMO/MSA actions.

The general consensus of the comments is that there is a need for immediate action because it is unacceptable that crew get hurt. All also agree that unnecessary complicated equipment and lack of training are major components of all accidents. However all members who commented on additional certificated-training for lifeboats were against this idea. Some comments such as "The "on load" and "off load" release gear must be standardized, more reliable and made simpler to operate and maintain" echoed our views and we certainly agree with the comments made by the Wellington branch of the Company of Master Mariners that "Training should not be neglected even if it is to be carried out with no people in the boat." They also tabled the idea that it might be time to rely entirely on liferafts and concluded that the amendment would improve safety but it should not inhibit the development of simpler, safer, release equipment or the continuation of drills. On the other hand, the Christchurch branch of the

Enclosed with this edition of News & Views you will find a questionnaire with 20 questions on the lifeboat lowering issue.

Please take the time and trouble to complete this questionnaire and return it to your branch secretary **as soon as possible**. We would like to report on our findings by 1 June 2005. Alternatively you can complete and mail the questionnaire on our branch website: www.nautinst.org.nz

Company of Master Mariners wholeheartedly agrees with our statements, and reminded us that "every seafarer has had drilled into him/her 'know how to use the emergency equipment before you HAVE to use it'." This was complemented by another received reaction: "The implied reason for not allowing personnel in the boats while being lowered to the water during drills is that the practise may lead to an avoidable accident. The risk of accident will be greatly increased under the stress of a real emergency. It is submitted that an accident becomes almost inevitable if ill trained crew have to lower the boats under the stress of a real emergency. In other words a small risk of avoidable accident during a drill is transformed into a high probability of accident in a real emergency." The only voice in support of MSA was the reaction from a ship-manager who argued that his main responsibility is the safety of the crew onboard and if discontinuing training takes a major risk away than this action is superior to all training needs. He suggested that shoreside training should replace shipboard drills. From other reactions, we received several examples to illustrate how well trained crew were able to deal with situations involving lifeboats, under adverse and stressful conditions. To summarise these reactions I will use a quote from one of the comments:

1. Drills must simulate as closely as practicable the emergency conditions that crew are being trained to deal with.
2. While every reasonable precaution should be taken to safeguard crew undertaking drills it should not be taken to the extent that the very purpose of the drill is undermined.
3. The best available release gear must be the standard, irrespective of commercial pressures between competing manufacturers.
4. Clear and concise instructions must be provided in all languages relevant to the crew of the ship. Particular care must be taken to retain clarity when instructions are translated.

BRANCH NEWS

The Port and Harbour Risk Management Code

On 15 February 2005 a relatively low number of 16 members met at the National Maritime Museum for our first meeting of the year. We were pleased to welcome Captain Angus McDonald, MNI Canada, as guest to our branch meeting. The meeting was treated to two excellent speakers from MSA, who conducted an interactive evening that gave us a comprehensive appreciation of the Port and Harbour Risk Management Code. **John Marshall, Manager, Safety and Environmental Analysis** spoke first on the development of the Code, after which **Harkesh Grover, Nautical Analyst** and Master Mariner, defined and discussed risk management onboard ships.

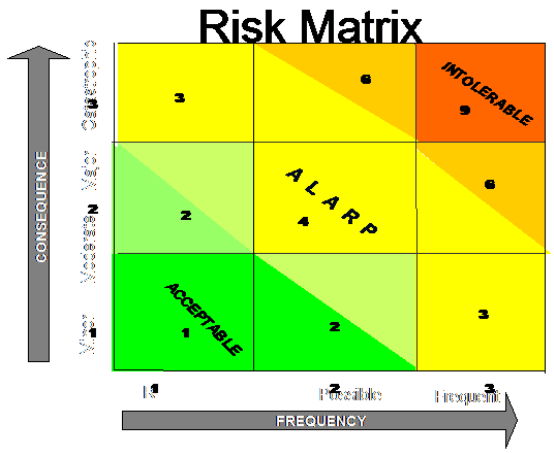
The development of the National Port and Harbour Safety System (NPHSS) is the result of a collaboration between a large number of stakeholders, working together to achieve safety for NZ maritime gateways. It is a statement of roles and responsibilities of all parties. The drivers are recent accidents, such as Eastern Honour, Tai Ping and Capella Voyager, the lack of common interpretation of roles and responsibilities and the lack of support tools for risk managers. As a country there is a need to demonstrate that NZ operates in accordance with international best practice and the Navigational Safety Review noted that there was an absence of the use of formal safety tools such as risk assessment, and inconsistent risk methodologies were employed. The objectives of the Code are the safe management of ships in NZ ports and harbours, instil safe working practices and creating a safe operating environment. The objectives of the project team were to make it work within current law and to clarify and define functions beyond any doubt. For starters there needed to be a distinction between harbour vs port: Harbour is the wider geographic area and may encompass a number of port operations, for instance in Auckland harbour we see various port operations such as ferries, Navy and Ports of Auckland. Both the harbour and the ports are required to appoint a designated person, not unlike the same function within the ISM code. For the harbour, the Regional Council designated person is the Harbour Master. Now often sidelined in a middle management position, the review is

expected to assign a more leading role for the harbourmaster and the requirement of a qualification equivalent to that of the Master of the largest vessel visiting the harbour. The harbourmaster will be responsible for the application of the safety policy and carry-out a high level risk assessment, to at least the currently defined pilot limits, but this can be extended to the limits of the territorial waters. S/He must prepare a MOU with the various port-designated persons, based on the port risk assessments and the port safety plans that link into the harbour safety plan and standard operating procedures. The port designated persons are responsible for writing safety procedures for people that work in the port.

This is a very inclusive process with 75 members representing 200 organisations in the National Advisory Committee (NAC) working concurrently in a number of work groups, such as the Harbourmaster's qualification working group, the Law Review working group, the Vessel Traffic & Port Info systems working group and the Environmental Assessment task force. The NAC endorsed the Code in June 2004 along with guidelines on risk assessment, hydrographic surveys and aids to navigation. The Code fulfils the objective of having agreed duties and powers and identification of commensurate measures. The guidelines support risk managers on the implementation of these measures. A report on environmental factors was endorsed by the NAC in early October of last year. It identifies relevant environmental factors and sources of environmental data/information. It also provides guidance on operational decision-making and possible risk reduction measures. This report was published in February. The implementation timeline agreed with NAC calls for regional councils to complete risk assessments and have MSA sign-off by June 2005. A year later, safety management systems should be in place and signed-off. Over the next year, MSA will be collaborating with the NAC and constituent organisations on development of further guidelines (e.g. poss. VTS) and competency standards for key officers with the NPHSS. During this same time, a law review is considering what new or amended legislation (both primary and delegated) is required to support the implementation and ongoing development of the NPHSS. This includes a review of the safety responsibilities of the port companies with specific instructions to have a comprehensive emergency plan with regards to salvage capability outside pilotage limits. A separate review will also consider existing maritime rules dealing with pilotage (MR.90) once the risk assessments are complete.

After a lively question and answer session, Harkesh took us on a safety assessment tour onboard. The shipping industry is a rule compliant industry meaning there is no desire to act independently and safety is mainly regulation driven. For a successful risk assessment we must differentiate between a hazard, something that harms people, environment, property and harbour stakeholders, and an event, such as capsizing or loss of stability. We must also define **hazard**, something with the potential to cause harm, and **risk** (R), a combination of the frequency (F) and the consequence (C) (severity or impact) of the hazard (R=F*C). To come to a good understanding of risk we must analyse the shipboard operation and find out what can go wrong, how likely is this to happen and what are the possible impacts? The IMO calls this a Formal Safety Assessment or FSA. This is a five-step process: Identification of hazards, Assessment of risks, Risk Control options, Cost Benefit assessment and Recommendations for decision makers. The goal of the FSA is to identify common hazards, there are no fixed rules to undertake the assessment and it depends on the type of ship, its operations and procedures, etc. The Code of Safe Working Practices for Merchant Seamen provides some useful parameters to start with: "Risk Assessment is intended to be a **careful examination** of **what,** in the nature of operations, **could cause harm** so that decisions can be made as to whether enough precautions have been taken or whether more should be done to prevent harm." In addition the ISM code requires that "the Company should establish procedures in SMS to identify equipment and technical systems the sudden operation-failure of which may result in hazardous situations." However the ISM code does not specify any particular approach to the management of risk, and it is for the company to choose methods appropriate to its organisational structure, its ships and its trade. A useful tool to approach risk management is the

Risk-Matrix, it is simple and straightforward to use, but a time consuming task that is worthwhile to perform according to P & I clubs.



A risk assessment should be carried out for every "key shipboard operation" (ISM), and it is the Master's responsibility that it is actually done. When carrying out the risk assessment you should watch out for unrealistic expectations and being overly conservative as well as for new problems and unidentified risks.

Frequency/Probability (F/P) How likely	**Severity (S)** How harmful
1. Very unlikely	1. Slightly harmful
2. Unlikely	2. Harmful
3. Likely	3. Very harmful

Risk Factors (F/P x S)	**Action Requires**
1	No action is needed
2	Can be tolerated, but make sure that it does not become worse
3/4	Take action, but subject to it being reasonable
6	Must be attended to, you must reduce the risk
9	Cannot be accepted and work/activity must not continue

A weekly safety walk through the ship could address these issues. Feedback from the meeting suggested that a risk assessment meeting immediately ahead of a critical operation was more beneficial than a formal (weekly) safety meeting with the ship's staff. Harkesh talk led to a animated discussion among the members with numerous examples on what goes on at this moment onboard the various ships, after which the meeting was closed at about 21.30 hrs.

Ship visit to ms "Sapphire Princess"

On Wednesday 23 February a small group of local branch members were invited for a visit onboard the "Sapphire Princess", the largest cruise vessel to visit New Zealand to date. The ship, operated by Princess cruises has LOA of ….. and weighs in at 116,000 tonnes. It is equipped to carry 2700 passengers and over 1100 crew, according to its safety certificate. We were welcomed onboard by Julie, a senior cruise staff officer. She very efficiently took us on a whirlwind tour of this large vessel showing all the public lounges. The Italian and Japanese themes were visible throughout these spaces, particularly in the spa areas and the restaurants, of which it has four main ones. The highlight of the visit though was the visit to the bridge and the personal tour of all the latest equipment by the Waiuku born Master, Captain Cristopher Rynd. Among others this is one of the few ships afloat that have an exemption to carry paper charts, even when in NZ waters, because of their approved ECDIS system and well trained officers. The damage control room, immediately behind the bridge, was equipped like the best command centre, with computers lowering from alcoves in the ceiling with the press of a button and all information at the Master's fingertips to oversee any calamity that the ship may encounter. It was pleasing to see that stacked against the bulkhead the paper safety plans were still available "just in case".

Julie Lithgow's, Mgr, Nautical Campus - NZvisit

"When it was learnt that Julie Lithgow, Manager, Nautical Campus, would be visiting her family in New Zealand in April, an invitation was extended for her to address the Wellington Branch of the New Zealand Company of Master Mariners during their AGM on Tuesday 12 April. The date of the AGM was brought ahead one day to suit Julie's travel plans. The New Zealand Secretary of the NI supplied contact details of NI members in the Wellington area and those who were not already members of Master Mariners were invited to the meeting.

Julie gave an address on the Nautical Institute and, in particular, the benefits of membership and the comprehensive international programme of

command and leadership seminars currently in place, and planned for the southern hemisphere next year. A lively debate followed her address, including issues of standards of training and lifeboat accidents, and the benefits of closer liaison between the two organisations."

President's questionnaire

The deadline to have your say in the future plans of the Nautical Institute is upon us!

The President's questionnaire, which was distributed with the January issue of Seaways, is due now. If you have misplaced the form or forgot to take it with you onboard, it can be downloaded from the Institute website www.nautinst.org/questionnaire

A few days earlier Julie had met with representatives of our local branch in Auckland. At this meeting she stressed the importance of completing the Chairman's questionnaire to ensure that our words are taken into account when the Institutes five year plan is formulated (see window on following page). She also prove to be a good listener and with high regularity she was making notes of comments that were made by the meeting. One of the major issue highlighted was the lifeboat lowering project that we have adopted. Julie was very interested in the project and suggested to pair with another branch, possible Belgium or the Netherlands, to make it a bipartisan worldwide approach.

AROUND NEW ZEALAND

Ports & Shipping Forum, 27 April 2005

The international maritime industry is facing an acute shortage of maritime expertise. Studies at the beginning of the decade predicted a seagoing officer shortage of 45,000 by the end of the decade. This seagoing experience is widely used ashore to facilitate shipping and the shortage must impact on this sector as well. Unforeseen growth in China has driven trade growth ahead of the initial predictions and it appears that the impact of the shortage is more severe and occurring earlier than predicted.

The New Zealand maritime industry currently appears to comprise of approximately 420 seagoing officers, 250 seagoing ratings and 217 former seagoing officers in the shore sector. With training, many of the shore based positions could eventually be assumed by non-mariners, however, overseas studies suggest that in most cases the training costs would exceed those involved in training mariners who then move ashore into these positions.

The likely future long run demand for expertise in New Zealand appears to be about 320 seagoing officers, 250 seagoing ratings and 180 former officers working ashore if the industry is to remain about the same size. A lack of new entrant training over the past 25 years, however, means this problem is much more acute in the short term with an estimated 70% of available expertise in New Zealand due to reach retirement age in the next 15 years. Using assumptions of a 6.5% p.a. retention loss and 10% wastage during training, New Zealand would have a long run need to recruit 10 ratings, 23 deck officers and 15 engineering officers per year. This needs to be met through a combined strategy of immigration and new entrant training whereas the short term demand can only be filled through immigration.

The shortage is a global problem. There is a high demand in most countries for expertise and a very competitive recruitment market with rapidly increasing remuneration rates. It is very uncertain that New Zealand will be able to consistently attract the calibre of expertise that it requires. There is also a significant risk that existing expertise will migrate to other countries through enhanced opportunities and higher salaries with Australia being a very significant threat in this regard.

Assuming net immigration of 20% of long run demand, there is a need to recruit 8 trainee ratings, 18 trainee deck officers and 12 trainee engineering officers annually.

All traders are ultimately the beneficiaries of New Zealand maintaining an adequate pool of maritime expertise. The direct beneficiaries are both the local and overseas ship operators who employ New Zealand seafarers and the wider industry that employ former mariners ashore. A disproportionate

burden of the training cost has previously been carried by the New Zealand ship operators. This is inequitable.
It is suggested that future training costs be shared more equitably and that an industry training scheme be introduced. A modern cadetship with shorebased training costs being shared between the trainee through course fees and the government through tertiary education funding further ensures that these parties who benefit from maritime expertise contribute to the cost. The on board training costs should then be split 62% for New Zealand ship operators, 14 % for overseas ship operators and 24% for the New Zealand shore based industry to reflect the benefit these parties gain. It is suggested that such a scheme could easily be administered through Manukau Institute of Technology and that the contribution from the shorebased sector and international operators is most easily collected by way of a levy through MSA charges, a surcharge on port company marine service charges or a small levy on bill of lading issue/clearances. *Captain Tim Wilson, Director NZ Maritime School*

Quote of the day

"**We were in total control**" Jess Batchelor, spokeswoman for the Interislander asked about the black-out of the "Arahura" two miles off the entrance to Tory Channel. *N.Z.Herald 25 April '05*

Three-year wage deal clears way for expansion

The Lyttleton Port Company will spend $18 million buying a third container crane and improving and expanding facilities at the port following the settlement of a collective agreement. *Otago Daily Telegraph, 20 April 05*

Port Otago optimistic despite profit fall

Port Otago remains optimistic despite reporting a fall in its profits for the six months ending December 04. The company, 100% owned by the Otago Regional Council, posted a before tax`profit of $4.5 million for the period, down more than 14% on the $%.3 million reported in the previous corresponding period. "The lower results reflected reduced margins from port container services, reduced conventional cargo income and higher than projected operating cost" port company chairman John Gilks told the regional council. He estimated Port Otago handled about 30% extra empty containers during the six months for which they were paid "significantly less" than for handling full refrigerated containers. *OTD, April 2005*

Port Otago, Customs form partnership

Protection against smuggling and other illegal imports received a boost in Otago with Port Otago and the NZ Customs Service signing a new crime-fighting partnership. Since June, custom's new $400,000 mobile cargo non-invasive X-ray inspection unit at port Otago has detected drugs, weapons and other goods breaching import or trademark regulations which have prompted several investigations and one breach may yet go to court.

MSA UPDATE

Reporting accidents to MSA

The Maritime Safety Authority has important information for masters and skippers about reporting accidents, incidents and serious harm injuries to MSA. Masters and skippers now have a 24-hour, seven-day-a-week verbal reporting channel to quickly and easily tell someone what has happened, before completing a form as soon as they can afterwards. MSA has also introduced a range of other accident investigation improvements to enhance safety overall. These changes include:

- New, user-friendly and sector specific accident reporting forms;
- A new tiered investigation response;
- The enhanced use of safety audits, which can be carried out separately to accident investigations;
- A new prompt feedback process, so all interested MSA customers receive safety information more quickly;

For further information and details on this and other reports, please visit the MSA website
www.msa.govt.nz

IMO CORNER

Air Pollution rules to enter into force

Regulations for the Prevention of Air Pollution from Ships are set to enter into force on 19 May 2005. The 1997 Protocol to the MARPOL Convention, which includes Annex VI, enters into force 12 months after being accepted by 15 States with not less than 50% of world merchant shipping tonnage. Samoa, the fifteenth State to ratify the instrument, deposited its ratification on 18 May 2004. Annex VI has now been ratified by States with 54.57% of world merchant shipping tonnage. Annex VI sets limits on sulphur oxide and nitrogen oxide emissions from ship exhausts and prohibits deliberate emissions of ozone-depleting substances. Regulations on Prevention of Air Pollution from ships. The Protocol including Annex VI to the MARPOL Convention was adopted at a Conference held in September 1997, in response to IMO Assembly Resolution A.719(17) on Prevention of Air Pollution from Ships, adopted in 1991. The regulations include a global cap of 4.5% m/m on the sulphur content of fuel oil and calls on IMO to monitor the worldwide average sulphur content of fuel once the Protocol comes into force.

NEW PUBLICATION

Communication vital in emergency response

The importance of a prompt, effective and adequate response to any form of emergency has been recognised by Intertanko with a **guide to emergency management and crisis communications**, writes Michael Grey. The independent tanker owners' organisation has drawn on the experience of offshore energy expert Brent Pyburn, crisis communication manager Nicholas Brown and former ship-manager Peter Cooney in producing the guide, which emphasises the importance of planning in any company's responsible governance. There is also a strong emphasis on communications, both internal and external, in the management of any emergency, pointing out that much will depend upon public perception of what is done in the aftermath of the incident. The guide recommends planning to provide for the establishment of an incident management team, an emergency support team and a crisis management team, each with a separate strategic and tactical role. It suggests the composition of such teams and the ways of building up expertise, capacity and training. Exercises and drills are recommended.
The importance of communications following an incident is emphasised, the guide noting that "to effectively protect their reputation, shipping companies must emerge from the shadows and appear to be accountable, transparent and responsible". All too often, it is suggested, the industry has been ill-served by shipping companies' failure to provide an adequate media response. It points out: "By communicating clearly early on, companies will be able to better manage public and regulatory expectations." *Lloyd's List, Wednesday, 16 March 2005*

PIRACY REPORTS

Stop the pirates now

The three piracy incidents since 28 February have gained more attention because they have occurred in such rapid succession, they all involved kidnapping and they marked a vicious end to the post-tsunami lull. Yet effective solutions are available to anyone with the will to implement them.
Violence and kidnapping of crew for ransom are not recent phenomena, but it seems that this form of piracy is becoming a more sophisticated and vicious racket. Petty theft first grew into armed robbery, which is now developing into an organised, murderous business. It has been asserted that no money changed hands in the recent case of the tug Idaten, though some observers believe that money must have changed hands. We don't know the truth, but the pirates do and this will govern their future actions. A seafarer was killed every 12 days last year (up nearly 50% on 2003), while 83 crew were kidnapped for ransom. With other cases going unreported, and some payments allegedly being made simply because of the threat of kidnapping, this is clearly becoming big business. This time the targets are Japanese, so the issue is moving up the political agenda. Japan has been vocal in calling for more action in patrolling the Malacca Strait, and

has invested substantially in safe navigation there. The stakes are high because most of its crude oil imports pass that way. Most of the attacks take place on slow-moving tugs towing laden barges that are sitting ducks for pirates moving in speedboats. Coordinated patrols by Indonesia, Malaysia and Singapore have not proved to be very effective. Joint patrols that allow for hot pursuit into sovereign territorial waters are preferred, but Indonesia and Malaysia are not ready for the presence of foreign enforcement agencies in their waters. But while the littoral states seem content to bleat about sovereignty, shipowners and especially crews are bearing the burden of a worsening problem, because no government in the world is prepared to put seafarer's lives ahead of its own pride. While nothing can be done about incidents in territorial (read Indonesian) waters, in international waters there is a right – we would say an obligation – for flag states to act. There is also a time for them to act, and that time is now. In today's industry, countries with navies do not posses significant merchant fleets, vice versa. So this would mean sending the Panamanian and Liberian navies to patrol the Strait. In the time it takes to stop laughing, we can come up with a better suggestion. Under international law, Japan has every right to patrol the strait itself, but this would be seen as intolerable and inflammatory. But there is nothing wrong with the IMO – a UN body – being instructed by its more powerful members to send a "peacekeeping force", just like the UN does with ground forces. Aircraft carriers are good for the purpose, but the US navy's amphibious assault ships – with their massed ranks of helicopters – are even better for this kind of patrolling. They have already been deployed against Caribbean drug smugglers. Who could possibly object to the patrolling of international waters by a recognised international body? Trade is the lifeblood of the free world, and shipping deserves protection. We have the right to demand it and those in power have the power to give it. *Fairplay magazine – 31 March 2005*

Japan helps Malacca piracy crackdown

Japan says it is determined to strengthen co-operative measures to combat piracy in the Malacca Strait and may give patrol boats to Indonesia after two Japanese seafarers were kidnapped on Monday.
"As one of the leading nations of maritime activities in the world, Japan finds it most important to take the necessary action to maintain safety in the sea lines of communication, especially in an international strait like Malacca," Japanese Ministry Foreign Affairs press secretary, Hatsuhisa Takashima, told a press briefing in Tokyo.
"In the wake of this incident, the Government of Japan is determined to make further efforts to co-operate with those nations in the area to strengthen the measures to combat against piracy." Asahi Shimbun reported that the Japanese government planned to give Indonesia two or three unarmed, 20m long vessels as grant aid in 2006 or later.
Lloyd's List, Thursday 17 March 2005

Malaysia cautions armed escorts

Malaysia has threatened to detain vessels providing armed escorts to commercial ships. Director of Internal Security and Public Order, Othman Talib told a press conference yesterday that the marine police have been instructed to detain such boats and arrest the crew if they encroached on Malaysian waters. Ship owners have been increasingly seeking armed escorts in the face of rising incidents of violent attacks on merchant ships in the Malacca and Singapore straits. Othman stressed that private escort companies should obtain permits from the Ministry of Internal Security, Malaysian news agency Bernama has reported. Singapore-based Background Asia Risk Solutions (BARS) told Fairplay it would seek clarification from Malaysian authorities on the latest directive. BARS operates an escort vessel available anywhere between Sri Lanka and the South China Sea for about $50,000 a mission. *Fairplay, 28 April '05*

AROUND THE WORLD

Australia awards salvage funding

THE Australian government has awarded towage operator Adsteam Marine A$2M ($1.5M) as an interim subsidy for provision of emergency towage and salvage around the Australian coast. Transport minister John Anderson said a working party of the

Australian Maritime Group is looking at a long-term and financially sustainable approach to Australia's emergency towage and salvage capability. Anderson said the working group will make recommendations, based on which the government will finalise arrangements 'in the next few months'. The A$2M funding is solely to cover the period prior to agreement and will not be used by Adsteam Marine to cross-subsidise its other towage activities. An Adsteam Marine spokesman said the operator was pleased to have received the interim funding, but that the company was waiting to hear the government's plans for a long-term solution and the role Adsteam would play. *Fairplay 20 Jan 2005*

Welcome cancelled after Endeavour runs aground.

A replica of British explorer Captain James Cook's sailing ship Endeavour ran aground as it was recreating the seafarer's arrival in Australia. In a mishap never faced by its illustrious predecessor, the HM Bark Endeavour hit a sandbar in Sydney's Botany Bay, the site of Cook's original landing in 1770.

After a grueling five-month voyage from Britain, the ship's crew had been tantalisingly close to completing its aim of recreating Cook's original journey to Australia. A spokesman for the National Maritime Museum, where the ship was to be permanently berthed, said tugs pulled it off the sandbar. It was undergoing a damage assessment. Dignitaries had already boarded the vessel ready for a grand entrance into Sydney Harbour – with sailing ships, vintage ferries and hundreds of pleasure craft escorting the replica.

The festivities had to be cancelled and the ship is expected to dock in Sydney late Sunday or early Monday. *Fairplay, 18 April, 2005*

Half of ships 'break work hours pacts'

Almost half of all vessels breach international agreements on seafarer working hours, according to the Paris Memorandum on Port State Control. The findings are bound to cause controversy as fatigue is a big factor in the human errors that cause the vast majority of shipping accidents. In addition, 40% of ships are deficient in other areas of crew terms and conditions, the European port state control group added. The findings come after a three-month concentrated inspection campaign in the final quarter of last year, with port state control officials checking how crews were treated. Special attention was paid to food supply and storage, galley conditions, drinking water, ventilation and heating in accommodation spaces, sanitary facilities and hospital accommodation. Of 4,555 vessels inspected during the campaign, more than 40% had deficiencies in one or more of these areas, with 21 detentions resulting. The exact number was not released. That average compares with 25% during the last similar exercise in 1997.

The Paris memorandum also paid special attention to the Seafarers' Hours of Work and Manning of Shipping Convention 1996. Records of seafarers' hours of work or rest were closely scrutinised, with deficiencies in almost half of inspections. An International Transport Workers' Federation spokesman described the statistics as "shocking — something you would expect in the 18th century, not the 21st. "It shows that seafarers really are the forgotten people." *Lloyd's List, Friday 15 April 2005*

Building a case against fatigue

Who now remembers OMBO — the splendid innovation of one man bridge operation that would enable ships to be run with one man and a particularly alert dog? It hugely enthused the Scandinavians for a good while, with owners encouraging equipment manufacturers to come up with all sorts of integrated bridge equipment that would facilitate multi-tasking and consequent crew reductions. Thus the officer of the watch, while overseeing the navigational progress of the ship, aided by wall-to-wall electronics, could keep a weather eye on all the machinery functions and the general health of the cargo and chat away to all the shore stations that would be seeking information from the ship. And, lest he found this too wearing, enormously comfortable chairs were provided in the warm, weather-excluded wheelhouse where, with his vigilance protected by various alertness alarms and movement sensors, he could while away his watch. It was all enormously encouraging to cost shavers and crew cutters, and scarcely a ship left a shipyard without its proud builders noting its "OMBO-compliant" state. All that was missing was

the small matter of official amendment of the Safety of Life at Sea Convention to enable this form of watchkeeping to be institutionalised. There were some sceptics. British regulators hired a couple of experts, who each spent several months, mostly in small intensively worked ships, studying the effectiveness of the watchkeeper.

So professional opposition to OMBO grew and it was discredited, although it took the considerable weight of the US delegation at the IMO to outlaw it completely to the undoubted rage of shipowners who would just have to run their ships with the prescribed lookouts during the hours of darkness. Many, evidently, still do not bother. This earlier British study, which looked at the effects of both boredom and fatigue on watchkeeping alertness, might be considered of one of the foundations for the country's present initiative on the issue of safe crewing. It is certainly worth recalling as we review the far more recent study of the Marine Accident Investigation Branch, where it looked at watchkeeping practices and at fatigue as it re-analysed the investigation files on 66 collisions, groundings, contacts and near-collisions. Further work has been undertaken with the curiously named QinetiQ Centre for Human Sciences, which has built up a great deal of information on human behaviour as it applies to aircraft accidents. And Britain is now taking this data to the IMO's Marine Safety Committee through its sub-committee on standards of training and watchkeeping, with a submission calling for a review of the principles for establishing the safe manning level of ships. Thus the building blocks of some sensible, realistic and probably long-overdue reforms are being assembled. The latest MAIB Safety Digest, an excellent and informative publication, makes much of this research available to a wider audience. The digest also points out that, as well as revisiting the investigation files on the 66 incidents, the researchers dug deeper into the MAIB database to seek broader information from more than 1,600 accidents which had been reported to the branch over a 10-year period. Many of these clearly backed up trends and confirmed that in many of the incidents fatigue had been a factor which might have been overlooked in an earlier age, when it was merely assumed to have been part and parcel of the job and dismissed as playing no significant contribution, rather like the serious trauma of "shell shock" was regarded as no excuse for irrational behaviour during the First World War. There is a whole range of "symptoms" of fatigue other than slumping fast asleep in the comfortable pilot chair kindly provided and missing the alter-course position. The MAIB notes that these can include an inability to concentrate with reduced vigilance, a diminished decision-making ability which may lead to the misjudgement of distance, speed or time, the overlooking of information required for complex decisions and failing to anticipate danger. Other symptoms included poor memory — starting something and then forgetting and a slow response to situations that demanded something rather more decisive. Additionally, there is reduced competence in inter-personal dealings and what are described as "attitude changes" in that fatigued people are too willing to take risks, display a "don't care" attitude and disregard warning signs. Perhaps none of this should be any great surprise. Anyone who has kept watch at night knows full well the way in which the body has to be persuaded into any sort of useful action after it has been dragged from a deep sleep at midnight. But such research provides important proofs that have been hitherto been lacking on the way that the effect of fatigue can be both insidious and, as the tour of duty continues aboard a hard-working ship, cumulative. From the data examined there can now be no doubt that groundings are most likely to happen at night and that the end of a watch is the most likely time for such an incident to occur. Moreover, the statistics quite clearly reveal that the system in which a master and mate work watch and watch with a six-on-six-off rotation is far, far more hazardous a system than that where, with a third watchkeeper available, a four-on-eight-off system is practicable. Notwithstanding this, the reality is that a very large number of short sea and coastal ships employ a two-watch system.

So the MAIB study then goes to the QinetiQ data, which looks more closely at the effects of six-on-six-off watchkeeping routines. They illustrate this with two diagrams which show how impractical such a system is, how impossible is any form of compliance with the Standards of Training,

Certification and Watchkeeping and the inevitable onset of fatigue and its consequences on the chief officer, who keeps the twelve-six watches on a short sea vessel. The first of the two diagrams shows an "idealised" routine which is compliant with STCW, the ship arriving in port at 0600 hrs every fourth day and sailing again at about 1800 hrs. It is pointed out that the chief officer has some extra duties on arrival in port, while the master is dealing with port entry and other paperwork, otherwise the six-hour watch rotation is maintained. Work periods are shown coloured, with green indicating "well rested and alert" and red, at the other end of the scale, indicating "dangerously fatigued". The grey areas indicate the periods when the chief officer was off duty and asleep. Both diagrams begin on day 10 of a 40-day tour, up to this period the chief officer being well rested. In the first diagram it can be seen that the mate is becoming seriously fatigued after about three weeks of this "idealised" routine. The researchers emphasise that no allowance is made for the "quality" of the rest, which is assumed to be good. The researchers also introduced a rest day into their programme into every second port call. Interestingly this was found to have no effect on the levels of fatigue. Such a routine, as every mariner would recognise, is completely unworkable and the second diagram employs the hours really worked by a chief officer of a 2,000 gt general cargo vessel. The "real" results showed that, despite the chief officer getting several nights in ports, the erratic nature of the schedule, the poor sleeps, the long periods in pilotage waters and necessary work additional to bridge watchkeeping meant that there were extensive periods, some quite early in the tour, when the mate was dangerously fatigued.
It is this, along with other research, which informs the British paper to IMO, which calls for the Principles of Safe Manning, resolution A.890 (21), to be reviewed in the light of such evidence. Specifically, it calls for crewing levels to take notice of fatigue and excessive irregular hours, maximum periods of continuous working without a break, the ship's operational parameters both at sea and in port and operational restrictions and limitations implicit with dual watchkeeping arrangements. The benefits which would stem from reforms in this area, suggests Britain, will be seen in better seafarer health, safety and welfare along with a reduction in collisions, near misses and pollution incidents. *Michael Grey, Lloyd's List, Monday 18 April 2005.*

TECHNOLOGY CORNER

Space radar at Awarua launched

The $3.3 million Unwin space weather radar was opened at Awarrua on Friday 15 April by Martin Unwin. The radar was named in honour of his father, Dr Robert Unwin, a pioneer in the development of auroral radars, including one installed on Bluff Hill in 1957. The Unwin radar studies solar disturbances such as auroras in the ionosphere, the part of the athmosphere about 100km to 300km above the earth. *Otago Daily Telegraph, 16 April '05*

Green water damage

Green water damage to ships results from high pressures and loads that occur when wave crests inundate the ship far above the waterline in areas not designed to withstand such pressures. Green water occurs when the relative elevation of the waves is higher than the freeboard of the vessel. This is the most difficult wave phenomena to take preventative action against. Remembering from our discussion on wave heights, with a significant wave height (Hs) of 5.5m, the most likely wave height is only about 3m, one third of the waves are higher than 4m and once in every five hours you should expect a wave of double the Hs, up to 11m high! These waves are often referred to as freak waves however they fall within the normal wave pattern. The freeboard variation is closely linked to the pitching of the vessel and is highly dependent on the wave period and the course & speed of the vessel. A rough indication is that the largest freeboard variations can be expected when the wave length is 1-2 times the ships length. Tests with different ships have demonstrated that in head seas the relative elevations are highly dependent on the wave period and the speed of the vessel, further tests show that when the same ships, with steady speed, alter the relative heading to the waves the freeboard variation is related mainly to the wave

period. Although tank testing has provided consistent indicators for certain ships under certain specific conditions, no reliable formulas have been developed yet to predict green water occurrences. Several tank-tests indicate that a reduction of speed alone significantly reduces the risk of green water damage, however studying wave damage to FPSO's that are stopped in the water and incidents such as the recent damage to the Norwegian Dawn in Hs approx. 8.5m off the Florida coast, demonstrates that this is not always the case. In this incident the Master had reduced speed to 5-10 knots, riding the storm with the dominant waves 30^{o} on sb bow. At this speed the stabilizers would become less effective and in addition to green water damage, there is a real chance for damage due to rolling. The author believes that an alteration of course, bringing the dominant direction of the waves at least 60^{o} on either port or starboard bow, is most effective. In particular if this means that a safe speed can be maintained where the stabilizers, kimkeels, etc. are most effective to dampen the rolling motion of the vessel. Off course the Master should be aware of the natural rolling period of his ship and ensure that the encounter period remains at sufficient variance to prevent synchronous rolling. On the bridge of a very large container ship or passenger vessel it may be difficult for the crew to estimate roughness of the conditions and extra care should be taken in the planning stages to plot a route avoiding head and headquartering wave patterns in excess of Hs>4m. Most national maritime weather stations provide wave forecast charts and in addition specialist websites such www.buoyweather.com provide a worldwide wave forecast service to help the Master in planning a safe route.

NEXT MEETING

TUESDAY 17 May 2005

18.00 for 19.00

Venue
Volunteers Room
The New Zealand National Maritime Museum
Hobson Wharf

Annual General Meeting

followed by

"Moormaster"

a presentation by
Robert Weber, Dipl.-Wirt.Ing, Master Mariner, LLB, Director MSL

Mooring Systems Limited (MSL) has perfected vacuum technology and established itself in the maritime world as the leading provider of automatic mooring systems. "Moormaster" is the name given to their range of generic mooring systems.

Robert will outline the technological development of vacuum mooring systems in New Zealand, and will give an overview of potential applications in the commercial shiping industry. The focus will be on the various advantagages that these systems can offer in respect of economy, safety and ecology.

Entry via "The Waterfront" where bar and refreshments are available.

The New Zealand Branch of the Nautical Institute wishes to acknowledge the assistance of the New Zealand Maritime School in printing this newsletter. For enquiries on all courses please call +64 9 379 4997, email maritime@manukau.ac.nz or visit the School at http://www.nzmaritime.com