

# Classification News

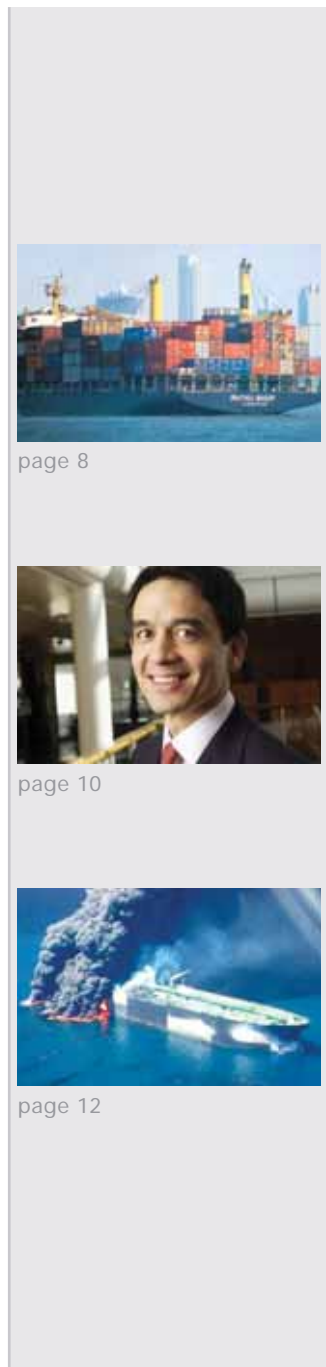


## Taken for granted?

World-Wide director Andreas Sohmen-Pao talks on the role of shipping in the global economy

Also inside

- Research into LNG tank sloshing
- Countdown on maritime security
- New Rules for double-hull tanker scantlings



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## A new course for Classification News

DNV operates in a fast-changing world. The 'Rules of the Game' are in a flux and overnight, technology seems to leap forward. For many companies, it can be difficult to keep up with all the changes.

*Classification News* is also changing. Previously, the magazine has acted as a conduit between our ship classification activities and the global maritime sector. It gave companies in the maritime industry an overview of DNV classification services, both at home and abroad. Over the years, the magazine has progressed from covering technical services to a broad range of maritime services, including the human element and consultancy.

The new magazine is designed to reflect the expanded scope of DNV services. Therefore, in the future our editorials will be devoted to a more diverse range of subjects, yet continue to provide our readers with valuable technical information. This includes regular features on research and development, regulatory updates, vessel/trade profiles, plus a regional or country feature in each issue. In addition, we will continue our special features, the news section and publish viewpoints from leading and influential shipping executives.

In this issue, we examine the drive to develop common Rules for scantlings for double-hull tankers, a topical subject nearing completion, following a joint initiative of the American Bureau of Shipping, Lloyd's Register of Shipping and Det Norske Veritas. Our main feature turns the spotlight on the practical questions of progress and impact of the International Security Code for Ships and Ports, which enters into force 1 July. We also have a special interview with Andreas Sohlen-Pao, who shares his thoughts on the role of shipping in the global economy.

Our editorial mission remains to keep readers abreast of news and events that are daily re-shaping their business world. After all, timely, relevant information is vital in the management of today's complex maritime industry.

We hope that our editorial changes will make for stimulating and enjoyable reading, and that you, our readers, will give us feedback and help us keep our ship *Classification News* on course.

Tor E. Svensen  
Chief Operating Officer, DNV Maritime

**DNV to class seafarers**

In a further development to achieve a safer, cleaner and more profitable industry, DNV SeaSkill – a service that offers standards, tests and certification related to competence development – has launched a new global initiative to achieve ‘competence beyond compliance’.

Five committees have already been set up to ensure the quality of the new SeaSkill, competence standards for the training of onboard and onshore personnel. The development follows growing awareness amongst quality players in the industry that in order to achieve optimum operations, the competence of seafarers and onshore staff needs to be continuously improved.

The STCW Code is a step in the direction of global competence standards. But many consider that there is a need to

look beyond the positions described in the Convention, and the model of DNV developing competence standards and carrying out testing and certification of personnel, based on these standards, has so far received wide approval and support.

Bjørgulf Haukelid, Head of DNV SeaSkill, told *Classification News*: “We are working on a complete system for competence management. The DNV SeaSkill system addresses the needs at all three levels: competence management systems within companies and organisations; the certification of learning programmes and courses at maritime schools and training providers; and the testing and certification of individuals as being fit for specific jobs.”

The basis of all DNV’s certification services – at the company, training and individual levels – are the specific competence standards which DNV SeaSkill



DNV SeaSkill: a structured approach to seafarer training.

develops with the involvement of users who are represented in the various committees of experts.

“DNV SeaSkill is working on standards for individual positions onboard and onshore, for example, Superintendents, Safety in Marine Electrical Installations and hotel staff onboard cruiseships,” said Bjørgulf Haukelid, adding: “This will be the first global sys-

tem for classifying maritime competence. It includes competence standards that can be applied globally and certification which is internationally recognised.”

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**DNVPS appoints new managing director**

Per Holmvang has succeeded Rex Lim as the managing director of DNV Petroleum Services following the latter’s recent retirement.

Holmvang, 49, joined DNVPS as a research scientist in 1985 and was the regional manager for Scandinavia and the Nordic countries before taking up his latest appointment.

An MSc. holder in physical chemistry, Holmvang is actively involved in industry-level initiatives, including the study of heavy fuel oil ignition and combustion properties, develop-

ment of new test methods for marine fuels, determination of fuel contaminants and the capping of sulphur content in bunkers.

Holmvang is also a frequent speaker at international marine conferences and a representative of ship operators’ interests in working groups organised by the ISO, CIMAC, Marine Environment Protection Committee (MEPC) and the Institute of Petroleum.



Per Holmvang (far right) seen here with Capt. Rahul Choudhuri, DNVPS regional manager for Asia Pacific & Australasia and Dr Siew Fah Tsai, DNVPS Singapore laboratory manager.

**The shipping industry's culture of denial under fire**



At a shipping and trade conference in Stamford Connecticut, USA, Tor E. Svensen, COO of DNV Maritime, asked the whole industry to look into the mirror before blaming others. "Substandard ships and substandard performance by flags, owners and class has to be handled better," he said.

Tor E. Svensen was invited to speak at one of the main sessions of the recently held CMA (Connecticut Maritime Association) conference. CMA is recognised as one of the most important annual maritime conferences and exhibitions in North America. Delegates, sponsors, exhibitors and visitors from almost 50 countries were present, including Peter Swift, managing director of Intertanko, and representatives of flags and shipowners from throughout the world. Their challenge was benchmarking and measuring the value of regulations, business practices, systems and codes.

Although Svensen cited figures well-known to DNV Maritime, which indicate that DNV is the class society against which our competitors benchmark themselves (figures confirmed by those issued by Intertanko), Svensen insisted that DNV has to improve its performance.

"We need to measure our performance in order to

improve. Benchmarking is useful," he said. "The main reason for safety improvements is systematic learning from past experience. I am satisfied with our safety figures and the reductions in accidents and fatalities over the past few years. But we cannot relax at any point. Everyone has to search for continuous improvement and listen to people outside the industry. A critical press is important, as are the general public and their reactions."

An important statistic regarding accidents at sea is that about half of them happen due to bridge system failures, commonly described as 'navigational errors'. DNV's breakdown of these figures shows that 7 percent of incidents result from contact, 20 percent from groundings and 22 percent from collisions.

"Class societies focus on structural standards because it is our job, but we've found that human error is even more

important," Svensen said. "We used to say that 80 percent of accidents were related to human failure while 20 percent were due to technical problems. My impression is that this has moved more in the direction of 90 to 10. When we looked into the mirror, we realised that we had to put more effort into managing human error onboard vessels."

In his address, Svensen noted that DNV has developed a set of notations governing bridge design called NAUT. So far, figures show that bridge-related casualties have been reduced from 40 accidents per 1,000 ship-years to about 21 per 1,000 due to NAUT, a 50 percent reduction.



**12 Navy patrol boats ordered to DNV Class**

DNV Australia has signed a contract with Austal Ships in Fremantle, Western Australia, to class 12 next-generation patrol boats for the Royal Australian Navy (RAN).

Work will commence in

April 2004 with delivery of the first boat in February 2005 and the remaining boats delivered through to April 2007.

The boats are 56.8m overall length, 7.95m breadth and 5.0m depth with a maximum speed of 25 knots. Power is supplied by 2 x 16V4000 series engines from MTU.

According to Michael Fletcher, DNV Maritime's regional manager for Australia and New Zealand, this is a major breakthrough contract for DNV Australia, and the RAN jointly and firmly establishes DNV's credentials in the local naval scene. It is also the culmination of many years of close coopera-

tion with the project's respective partners, Austal Ships and RAN.

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### Revolutionary electronic drawing approval service

Germany's Flensburger Schiffbau-Gesellschaft mbH & Co has become the first shipbuilder to benefit from a revolutionary electronic drawing approval service that negates the need for mailing or couriering ship drawings and documentation back and forth around the world.

The shipbuilder used DNV's state-of-the-art eApproval solution during the construction of two ro-ro car carriers for Und Ro/Ro Isletmeleri AS.

DNV, the first class society to be able to offer electronic drawing approval as a complete and secure service, expects eApproval to become the standard approval service of the future – a sentiment echoed by Markus Brinkmann, Naval Architect and eApproval coordinator at Flensburger Schiffbau-Gesellschaft, who remarked that eApproval was 'the missing link in customer oriented plan approval'. "It was much easier to handle documents and to keep the

overview of documents. And now we are able to see if the drawings have reached DNV. When sending drawings via email or paper mail, you don't know when and if they arrive," he said.

For the end user the system is far from complicated. First the shipyard or designer logs on to DNV Exchange, which provides the secure web environment needed to work effectively. Once online, drawings and calculations for approval can be uploaded and approved documentation downloaded in few minutes or even seconds. The documentation is then available to DNV almost immediately. Additionally, the client has continuous access to the status of submitted documentation. A further boon is that drawings and documents can be 'posted' at anytime from anywhere in the world as the system is based on Internet technology.

At the approval centre, systems are in place to allow comments and stamp to be added electronically as well, so the end result is 'a fully stamped

and approved drawing' returned to the client's user account on DNV Exchange.

The gains in both delivery time and paper handling costs are obvious, but the move to electronic approval also leads to opportunities for increased collaboration and co-operation. Smart boards, video conferencing or just PCs can allow both parties to discuss and work on drawings at the same time even if separated by oceans. Problem solving is made that much easier.

Throughout eApproval's development, DNV maintained a high focus on security. As a result, a number of measures have been included to control user-access: user name and password after an eApproval contract is signed, encrypted file transfer and virus protection together contribute to a very secure web service.

With a faster exchange of information to assist with shorter design times; easy access and overview of documentation status; a reduction of paper, mailing time and associated costs; and more efficient communications, DNV believes its eAp-



proval solution will improve the level of service it can offer its clients and ease the flow of information between all parties.

Markus Brinkmann's appraisal of the service is such that he told *Classification News*: "I'd like to take this opportunity of thanking DNV for introducing the system and the possibility for us to be the first company to use it. We hope that you will continue working on this new tool to be one step ahead compared to other classification societies."

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### Barber fleet security agreement

Barber Ship Management has entered into a fleet security agreement with DNV.

On 1 July, the new International Ship and Port facility Security (ISPS) Code agreement implemented by IMO will come into effect. To meet the Code requirements, Barber has entered into a fleet agreement with DNV, involving the security-certification of more than 100 vessels. This is the most comprehensive agreement of its kind for DNV to date.

"Many shipowners will have serious problems in meeting the ISPS deadline," says DNV customer service manager, Petter Mowinckel. But he confirms Barber should not experience

any problems.

"Barber has security personnel working on these issues all the time, and started implementing the new regulations right away."

The Barber vessels will not be part of the bottleneck of ships scrambling at the last minute to meet the 1 July implementation deadline, since Mowinckel expects to have finished inspecting them well ahead of time.

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Fleet security agreement with DNV.

Photo: David Mackie/Willh.

# New research into LNG tank sloshing

Det Norske Veritas is placing emphasis on anticipated changes to traditional LNG supply chain patterns as it continues to develop its technical competence in the LNG field

**T**he emergence of the LNG sector as a dominant force in the world shipping industry is bound to affect traditional LNG supply chain patterns.

These expected changes include an increase in offshore gas production; a growing volume of spot market trading; an increase in the size of LNG carriers; and the appearance of the first offshore loading and discharge terminals in the not-too-distant future.

“All these developments require either new or modified technologies or new evaluations,” points out Wouter Pastoor, senior engineer in DNV’s Hydrodynamics & Structures Department.

“We at DNV believe that for these changes to be accommodated and implemented safely and for the same high level of class services to be maintained in the LNG sector, then improved technical com-

petence is required of all class societies.”

As part of its own development efforts, DNV is concentrating on building its level of expertise with membrane containment systems to the same high degree of understanding it has, through long experience, of Moss spherical tanks.

Within this initiative, cargo sloshing in membrane tanks has been a topic of special focus for DNV. LNG sloshing in partially filled tanks induces both fatigue and high loads upon the containment system, the hull structure and the pump tower in the tank.

The DNV work on membrane tank sloshing is also relevant to the changes about to impact the industry in general, for a number of reasons, i.e.

(a) the present membrane tank filling restrictions would be compromised in the case of liquefied storage of LNG at a floating offshore installation, where fill levels

will vary widely;

(b) as spot trading increases, shipowners want to increase their trading flexibility by being able to operate with partially filled tanks, thus signalling the need for a reduction in the upper filling restriction;

(c) larger LNG carriers imply changes in tank dimensions, ship motions and, thus, sloshing characteristics in the tanks;

(d) despite the advantage of remoteness from densely populated areas, offshore locations entail ships having to cope with more severe environmental conditions when loading or discharging.

The experimental sloshing R&D programme drawn up by DNV seeks to tackle these issues head-on. The key question is how to determine the maximum sloshing loads over a ship’s lifetime, at the same time as accommodating the evaluation of new designs, such as large LNG carriers; lower filling levels; localised impacts; and



The sloshing test platform developed by DNV for its current R&D programme.

the effect of changes in ship speed and sea states.

Another factor that DNV has had to confront in its research work is the viability of scaling model sloshing tests up to full scale. The use of a 'comparative approach', in which actual measurements of sloshing forces onboard a conventional size LNG carrier are scaled up, has proved reliable, but only up to a point.

When LNG carrier sizes go beyond 200–230,000 cu m in size, the results from the comparative approach start to become doubtful. A more careful analysis is required and, in this respect, DNV has carried out two series of model tests in order to determine how best to scale sloshing model test results to full-scale absolute values.

"These tests have clearly shown that sloshing impact pressures increase significantly for lower filling rates," warns Wouter

Pastoor. "In addition, even for lower sea states these impacts are still larger than the largest loads measured for filling levels within current filling restrictions."

The sloshing test programme is continuing. Since the first two series, DNV has carried out, or is scheduling, studies covering aspects like sloshing-induced fatigue loading, pump tower loading, structural analyses and the numerical simulation of sloshing.

In addition, the class society is working on the development of full-scale measurement equipment to monitor sloshing pressures and containment structural responses.

DNV complements its classification activities with the provision of consultancy services to the LNG industry. In this respect, the society's competence on risk analyses and the direct calculation of loads and responses of the ship and tank structures have gained particular recognition.

DNV conducts wave load and finite element analyses to determine global and local responses and, thus, ultimate and fatigue limit states of the LNG hull structure, cargo tanks, tank supports, etc. In addition, thermal stress analyses can be carried out.

The risk of LNG carrier collisions or groundings is another ongoing concern that shipowners continuously strive to manage in the best way possible. DNV is able to simulate collisions with advanced nonlinear finite element analyses and to determine the amount of damage and, thus, the consequence of such accidents.

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# DNV benefits from gro



Photo: Singapore Maritime Port Authority

The focal point of some 400 shipping lines, Singapore is the world's busiest port in terms of shipping tonnage.

Rapid expansion in Asia's shipbuilding and shipping activities, springing from sustained economic growth, is offering new opportunities for DNV

# owth within Asia

**R**agnar Hansen is DNV's recently appointed regional manager for South East Asia, and former head of DNV's marketing division. He emphasises, "Things are looking good. Today we have just one-third of our business in Scandinavia and the rest of it is from outside Scandinavia. In the past six months we have gained about 40 percent of all classification business for newbuildings in South Korea, and 20 percent in China."

DNV has a network of 70 offices in 25 countries in Asia, and supplies a full range of technical and consultancy-related services supported by resource centres in Pusan, Shanghai and the Asia Pacific base in Singapore, which has been established for more than 38 years.

"Asia leads the world in newbuildings with around 90 percent of the market; DNV gained a market share of 17 percent of all newbuildings ordered in 2003. Recently, new orders and class transfers have helped to increase the DNV fleet to 99.6 million grt – an all time high," says Hansen.

DNV has kept a close eye on the development of Asia Pacific's shipping industry. It's been a fast changing, fast developing industry and still is, but what was relevant 10 years ago in Singapore isn't as pertinent today.

"Singapore will undoubtedly retain its world-leading position as a major transshipment centre and also continue its role as a shipbuilding and repair centre. However, Singapore will probably enhance its position as a 'maritime cluster' with increased activities in shipowning, ship management, ship finance, legal and other marine-related services," states Hansen.

The majority of DNV's work in Singapore is aimed at supporting shipowners with class matters relating to day-to-day



"Asia is an enormous market and, for practical reasons, it is important to have a prominent presence with a good mix of competence," says Ragnar Hansen, here with Nick Roper (standing).

operation of their vessels. However, to complement Singapore's efforts to enhance its capabilities DNV will continue to offer training courses. Says Hansen, "The need for training is tremendous; and like Europe, the demand by Asian shipowners for skilled shore and sea-based personnel is growing significantly every year."

Along with its class and training services, the Singapore office is offering its customers a wide and expanding range of value-added services from risk management to the testing of bunker fuel.

Nick Roper, head of the Maritime Service Centre comments: "In response to changing market conditions, we are actively developing both new and existing services from life-cycle risk management and integrity management to safety and environmental consultancy and R&D projects. DNV has recently established a Maritime Solutions consultancy office in Singapore to offer these services locally. We believe that the ability to swiftly respond to change, and a committed approach to

further innovation and improvement, will help position us for the future."

Det Norske Veritas Petroleum Services (DNVPS) is the largest tester of bunker quality levels in the world – ensuring that contaminated fuel is avoided and maintenance costs reduced. "DNV has strengthened its position in fuel quality testings, with a 75 percent share of the world market," says Per Holmvang, the newly appointed managing director of DNVPS. "Declining fuel quality has over the past years led to a range of engine failures, creating dangerous situations. As more contaminants and wastes find their way into the bunker delivery chain, a continual quality surveillance is essential to help ship operators verify if the fuels delivered to their vessels are safe for use."

DNV and shipowners both know that detentions cost time and money. DNV is committed to supporting owners in quality ship operation while authorities increase their efforts to crack down on substandard ships and owners. Recognising this, DNV deleted 29 vessels from class last year, and has the lowest detention rates in the three principal Port State Control regions.

"The fact that DNV has the lowest detention figures reflects our enhanced efforts. It also demonstrates that we have customers who value quality highly, and that our follow-up work," says Hansen and concludes, "Now there is a new challenge on the horizon, with shifting trade patterns in South East Asia. We have to follow the direction of the trade, and we will expand our network and services to be close to our customers."

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# Finding the right

World-Wide Shipping director Andreas Sohmen-Pao highlights the challenges facing the shipping industry and the regulatory bodies



**W**hilst the director of World-Wide Shipping, Andreas Sohmen-Pao, is quick to recognise emerging trends in the shipping industry and remains optimistic about the future, he worries that people fail to recognise the role shipping plays in the global economy. "I believe that the industry is sometimes taken for granted. Until recently, cheap tonnage has been readily available. But today, we face a temporary shortage," he says.

Indeed, Sohmen-Pao compares current attitudes toward shipping with how most people view electricity: "You don't really think about it until there isn't enough. It's interesting to see how much attention these shortages are getting in the press, such as the UK's *Financial Times*, which is only now beginning to cover shipping on a regular basis."

## Navigating regulations

Managing the recent increase in maritime regulations continues to be a challenge, but there are benefits, he points out.

"New regulations have improved standards and raised the overall quality and safety of vessels. Companies like World-Wide and Bergesen, which are serious about improvement, welcome high standards.

"At the same time, some regulations seem to be knee-jerk reactions to short-term political issues, while others strike me as being rushed into law without careful consideration. I believe one has to look at the specific areas where legislation is being introduced, and how it's being introduced, in order to determine whether it's good or bad," he says. For example, the World Wide Shipping director notes that the recent regulatory focus purely on the age of vessels assumes that older vessels lack the quality found on more recently build vessels. He argues that most people famil-

iar with the business know that there may be some correlation between age and quality, but perhaps not as much as some of the regulators or politicians think, and not uniformly across all vessel sectors. "Gas carriers, for example, have a very different lifespan to oil tankers, and cannot be viewed in the same way," he says.

## Alphabet soup

Today, the shipping industry is regulated by a complex web of international bodies, including the International Maritime Organisation (IMO), the European Union (EU), and the International Association of Classification Societies (IACS). Observing that there is a trade-off between the breadth of opinion offered within larger groups, and the responsiveness of smaller ones, Sohmen-Pao suggests: "It's good to be able to move forward in an efficient group, but it's also good to have a diversity of ideas and opinions in the regulation-forming process. I think the most impor-

# balance



An optimistic Sohmen-Pao believes that the industry is sometimes taken for granted.

tant thing is how knowledgeable the regulatory group is, in order to ensure it arrives at sensible solutions. In the case of LAN (agreement between LR, ABS and DNV to improve ship safety), I would imagine that the level of understanding of the issues is fairly high.”

Sohmen-Pao adds that in the case where regulations have been formed by individual countries where a small group of politicians drive the agenda, knowledge of shipping is sometimes incomplete. “There is a danger, if an issue becomes politicised, that decisions get made based on emotions rather than on facts. I think that imposing the arbitrary cut-off dates for ships runs the risk of falling into the category of emotional legislation as opposed to fact-based legislation.”

#### Policing regulations

With so many regulations, enforcing them can be a complex process for both regulatory bodies and shipping companies alike.

“Customers are an extremely important constituent, and have a lot of influence over standards given that they are the ones who can choose which suppliers to use. But it is unfortunate that our customers have had to take on the role of ultimate standard bearers for the industry, which suggests that others have not been able to perform this role adequately. Imagine if every time we flew on an aeroplane we had to go and assess the captain’s ability to fly the plane, or to check the plane itself. Similarly, as corporate buyers, if we were purchasing an IBM computer system, it would be very unusual for us to have to go into the factory and check on their production line and processes. We just assume that certain quality standards are in place.”

#### Trusting class societies

Sohmen-Pao hopes that the classification societies will be able to adequately enforce standards within the industry and that the other key players will be able to trust that

process. However, he recognises that conflicts of interest exist. “Class must balance its role as partner to its customers with their obligation to enforce regulations. It is a tricky relationship. You typically talk to your lawyers or doctors openly because they are not going to turn around and play the judge. It’s very hard to play the role of confidant and judge at the same time.”

Nevertheless, Sohmen-Pao feels the classification societies are generally good at providing services without compromising regulations. “While there’s no easy way to manage this challenge, I believe class has worked hard to find the right balance.”

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The International Security Code for Ships and Ports

# A question of progress and impact

The ISPS Code becomes mandatory for all internationally trading passenger ships and cargo vessels above 500gt on 1 July 2004. Are shipowners and operators ready?



**W**hat is emerging is an impression that some shipowners and ship management companies are lagging behind in critical essential groundwork. Ship security assessments and plans are not only complex ship-specific operational documents, uniquely tailored to each ship's individual security needs and trading profile, but moreover, the Ship Security Plans (SSP's) require careful implementation onboard on a ratio of unique plan per ship.

Although many flag state administrations have appointed IACS member classification societies as a Recognised Security Organisation, or RSO, other flag states have either not yet finalised their delegations or not yet issued their own security interpretations and guidelines.

Therefore, even though most administrations, shipowners and management companies demonstrate awareness of the ISPS Code and the need for nearly 40,000 ships worldwide to be ISPS-certified by 1 July, the time and distance remaining for many appears a daunting task, and edge-cutting attempts are occurring.

Some shipowners and management companies are compressing their ISPS plan preparation time; 'cookie-cutting' their plans by over-simplifying their ship uniqueness; or alternatively, sequence-switching the steps in the approval process. Accordingly there are ISPS plans being presented to the RSO approving surveyor that are in an incomplete, disorganised, or

otherwise inadequate form, resulting in rework and waste of time and money both for the company and the RSO. Obviously, as this trend was emerging already in February 2004, there is potential for increased tensions in the next few months.

At least one flag state has introduced a 60-day onboard implementation period for security plans, allowing for the two-month clock to begin ticking upon delivery of the company pre-approved plan to the Ship Security Officer (SSO) onboard for implementation. Thus, if the final plan approval by the RSO surveyor reveals shortfalls or deficiencies that require resolution before the SSP is approved, inconvenience may be caused the company and ship if

**"The time remaining for many appears a daunting task, and edge-cutting attempts are occurring"**



Photo credit: Scampix

In October 2002, terrorists attacked the French oil super-tanker *Limburg* in Yemen. Here Dutch divers and anti-terror experts inspect the damage to the vessel's hull.

substantive changes become necessary – not only administrative, but potentially also procedural and operational. Training and drills already completed can likewise become subject to question, if in conflict with the ultimately approved security plan. Sequence switching of the implementation and approval processes then compounds the difficulties facing all parties involved.

However, mostly there is proactive, sound planning and execution of the security system by the company – from the Company Security Officer (CSO) ashore to the most junior crew member

**“The counter-argument of bureaucracy and added administrative burden may at first appear valid in the face of non-events...but conversely could prove to be good insurance in the aftermath of a deflected or reduced threat”**

onboard – can and will ensure success. Many companies, large and small, have already successfully met the intentions and objectives of the ISPS Code. To succeed with the ISPS Code implementation, all parties, masters, crews, RSOs, flag state administrations, and other authorities, must actively recognise and support the necessity to preserve quality and effectiveness within the ISPS security equation. Any temptation to shortcut, undermine, or ignore the intention and requirements of the ISPS Code, in the hot pursuit of a trading certificate by 1 July, is not only foolhardy and

risky, but simply bad business.

risky, but simply bad business.

At this point in time, the ultimate success of the ISPS Code and its impact on security at-sea and in-port can only be judged based on a combination of identified or estimated security risks and incidents that have been successfully forestalled or avoided. The counter-argument of bureaucracy and added administrative burden may at first appear valid in the face of non-events, but conversely prove to be good insurance in the aftermath of a deflected or reduced threat. The debates on these and other related security worthiness issues would linger long after the mandatory compliance deadline that rapidly approaches.

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# Securing the supply chain

One of the largest security risks in shipping is the potential terrorist breach of containers and other closed cargo units. As a consequence, DNV has made an analysis of the security risk originating from present cargo handling procedures, and assessed the regulatory regimes currently in place or under development

Apart from unilaterally implemented security initiatives, such as the US-launched C-TPAT and CSI, or the Swedish Stair-Sec programme, it was concluded that (with the exception of some agricultural cargoes and dangerous goods) the contents of shipped containers were of no-one's concern until they arrived in the country of destination.

The conclusion to DNV's investigation is that unless timely measures are taken, once the ISPS Code on 1 July 2004 is implemented, masters and shipowners could face an unpredictable liability should harbour authorities discover any tampering of cargo or containers at arrival in port.

This was one of the reasons why DNV has become active in the Security Task Force of the World Customs Organisation (WCO), which had been requested by both IMO and the members of the G8 Summit, to develop instruments to enhance safety and the security of the supply chain whilst continuing to facilitate world trade.

The WCO Security Task Force was set up in June 2002 to represent customs as well as the trade and transport sectors, and so far produced measures of an administrative nature only. Besides there are customs organisations that find it difficult to change focus from revenue collection of imports to security supervision on exported goods.

DNV is pushing the WCO to speed up the process and has started working with them on sector-specific guidelines. Currently the development of guidelines for three sectors (maritime transport, air transport and importers/exporters) is in progress, the completion date for these

guidelines is expected to be by June 2004 and they will provide an umbrella for a future supply chain security standard.

Essentially, compliance to this new Supply Chain Security Standard will give a 'Green Lane' through Customs.

DNV has proposed a draft Code as basis for such standard. This draft Code embraces all existing supply chain security requirements in the market, is fully compatible with the ISO 9000-2000 standard and seamlessly connects the rest of the supply chain to the ISPS Code. It ostensibly formulates generic security require-

ments for the four basic processes in the land-based supply chain: stuffing of cargo units; storage of cargo and closed units; transport by road, rail or inland waterways; and the processing of information.

During the next few months DNV will, together with a number of progressive Customs organisations and multinational companies, test the validity and applicability of this Code in a series of pilot projects. Later, in the second half of 2004, a certification scheme will be rolled out, based on this standard, into those industrialised countries where customs are prepared to provide a green lane to certified companies.

In parallel to these pilots, and the work going on in the World Customs Organisation, DNV is attempting to have its Supply Chain Security Code turned into an ISO standard. For this DNV has established a close cooperation with the UN Economic Commission for Europe.

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The Maritime and Port Authority of Singapore has given wholehearted backing to the IMO's efforts to forge a united front against the dangers posed to maritime security.

# Ports and the ISPS Code – will they make it?

If shipping companies are working up a sweat trying to get the ISPS Code requirements in place before the 1 July deadline, they would shiver if they knew what the ports are doing – not enough!

But after a slow start, the global port industry finally seems to have woken up to the fact that ISPS Code compliance is a ticket to trade, not only for ships, but for ports too. A port must also go through the same ISPS Code processes, i.e. perform Port Facility Security Assessments (PFSA); write a Port Facility Security Plan (PFSP); get the PFSA/PFSP approved by the contracting government; implement approved security measures (cargo control, access control, contact points, etc); and get approval of implementation by the contracting government.



Photo: © Image Bank

However, the vast nature and scope of ports pose a number of other concerns than those associated with ships; the numbers of stakeholders that are involved in port decisions are plentiful, including governmental agencies on state, regional and local level, plus a plethora of private enterprises.

Progress with ISPS implementation in different parts of the world varies, although the world's major ports do seem to be on track, while, unsurprisingly, smaller ports are lagging behind. Shipping companies should be prepared to meet plenty of ports in Asia, Africa, and much of South America and the CSI that are not ISPS Code compliant after 1 July. The big container ports are in a league of their own and are already being included in security programmes such as the US-led CSI (Container Security Initiative) and C-TPAT (Customs-Trade Partnership Against Terrorism).

But what will happen if a port is not ISPS certified by 1 July? The answer: ships should avoid such ports, for if not, their ships may become 'contaminated'. If it is not possible to avoid blacklisted ports, the use of DOS (Declaration of Security) may become an emergency tool, and this, to use the language of the ISPS Code, is an agreement between port and ship that documents the sharing of responsibility between the two parties.

## DNV assistance

DNV (Maritime Solutions) is assisting port administrations and governments in 'getting to grips' with the new security Code. A case in point is the work carried out with the government of Norway and its coastal department, which is responsible

for implementing the ISPS Code regime for the country's ports. Big progress has been made, and the work has attracted positive interest from all over the world. Indeed, it seems that Norway is light-years ahead of many other countries.

In short, what DNV has done includes the following:

1. Identified the responsibilities and activities of the government in the ISPS process.
2. Prepared a guideline for the ports on how to perform the PFSA, and write the PFSP – a Master Plan for the PFSP has been made.
3. Trained personnel in the coastal department, having delivered both PFSO (Port Facility Security Officer) course and internal auditor training.
4. Approval process for the plan review (PFSA, PFSP), then assisted the coastal department in approving the plans. The first plans for approval were received in December.
5. Approval process for verification of the implementation, and assisted the coastal department in approving the implementation.
6. Prepared a tailor-made security solution for the cruise industry, carried out the selection of RSOs, and other facilitating tasks.

While the ISPS Code defines the broad sets of standards, DNV has further refined these security standards through a fruitful cooperation and coordination among the many stakeholders to make the security measures actually work – in time.

*Further information can be obtained from  
Ole.Vidar.Nilsen@dnv.com*

# *Purha:* Fortum's first tanker from China

The 25,080dwt product tanker *Purha* is the first in a quartet of Chinese-built vessels for the Finnish energy group Fortum

**F**ortum Shipping currently operates a fleet of some 30 tankers, including both its own and time-chartered vessels. Several vessels are also owned by financing companies and on bareboat charter to Fortum Shipping. The four new ships form part of an extensive fleet-renewal programme which aims for the highest standards of safety and the best possible performance in ice.

This renewal programme sees a number of older vessels being replaced by new-buildings. *Purha*, first in a series of four 25,080dwt product carriers from Jinling Shipyard in China, is part of this investment in new tonnage, amounting to ten vessels in total.

*Purha*'s sister vessel *Jurmo* and two others are all due for delivery in 2004. They have been designed mainly for export shipments of oil products in the Baltic Sea and North Sea from Fortum's refineries in Porvoo and Naantali. To ensure year-round operation in the severe ice conditions in the Gulf of Bothnia and the Gulf of Finland, the vessels are being built to

the highest Finnish/Swedish ice class 1A Super standards.

#### Double hulls throughout

*Purha* is a double-hull tanker, constructed for carrying IMO class II chemicals and oil products. The double hull also covers all of the fuel and lubrication oil tanks on board.

The vessel has ten segregations. For carrying cargo, there are seven pairs of fully epoxy-coated tanks, separated by a bulkhead in the centre line. The cargo tanks have a total volume of 28,283cbm at 100 percent filling. The tanks in the outer hull are for ballast water only.

A full cargo can be discharged in about eleven hours. The electric, variable-speed deep-well cargo pumps come from Hamworthy KSE Svanehøj. The capacities are 300 cbm/h for the tank pairs 1 and 2 and 445 cbm/h for the larger tank pairs 3, 4, 5 and 7. Both cargo and slop tanks have stainless-steel double-loop heating coils: primary heating is by steam and secondary heating by a mixture of water and glycol.

The inert gas generator is of Air Prod-

ucts type MPG-900, with a capacity of 3,250 cbm/h. All cargo and slop tanks are included in the inert gas system, while the ballast tank and cargo piping may be inerted using removable connections. A nitrogen system is provided for cargo stripping and purging of cargo piping, and for creating a layer of nitrogen on top of the cargo.

#### Medium-speed engine

Fortum has chosen a machinery configuration with a medium-speed engine coupled to the shaft via reduction gear. As the service profile of these vessels consists primarily of short sea legs, the medium-speed engine is considered to give better performance overall than a slow-speed engine. From experience, Fortum Shipping also prefers medium-speed engines for operation in ice during winter.

The main engine is of Wärtsilä type 9L46C, with an output of 9,450 kW at 500 rev/min. Wärtsilä's water injection system and low-NOx combustion system significantly reduce environmentally harmful emissions.



*Purha* is a double-hull tanker, constructed for carrying chemical and oil products in the Baltic Sea and North Sea from Fortum's refineries in Porvoo and Naantali.

The Kamewa CP propeller is a four-bladed stainless-steel design, with a diameter of 5,800 mm. The speed of rotation is 115 rev/min. The 1,200 kW bow thruster is also from Kamewa. The ship has three Wärtsilä auxiliary engines of type 6L20, each developing 1,020 kW at 900 rev/min and coupled to a 1,200 kVA generator. At sea, electric power is supplied by a 1,875 kVA shaft generator. Both it and the diesel-driven generators have been manufactured by van Kaick.

Fuel consumption of the main engine is 28t HFO per day at a normal service speed of 15 knots. On sea trials, *Purha* reached a speed of 16.4 knots at design draught.

#### Ergonomic bridge design

Fortum has introduced a standardised bridge layout on its new vessels. One of the basic qualities is user-friendliness, with ergonomic considerations at the forefront. Hence the bridge environment is familiar to deck officers transferred from one Fortum vessel to another.

The bridge is classed by DNV for one-

man operation. The integrated bridge control system includes a monitor for the electronic chart and information system (ECDIS), and a radar screen at each conning place. Furuna-Navintra is the turnkey supplier of the bridge and its navigation system.

*This is an edited version of an article which first appeared in the Scandinavian Shipping Gazette Yearbook 2003/2004*

#### *Purha*

Built by China Changjiang National Shipping Group, Jinling Shipyard, for Fortum Shipping, Finland. Finnish flag.	
Newbuilding No. 01-0201	
Delivered 9 September 2003	
Classification: Det Norske Veritas #1A1, Ice 1A*, Tanker for oil products/chemicals ESP, Ship type IMO 2, EO, Inert, ETC, TMON, W1, PMS, VCS-2	
Finnish/Swedish Ice Class 1A Super	
IMO No. 9255268	
LOA	169.50 m
LBP	160.40 m
Breadth, moulded	23.75 m
Depth, moulded	14.90 m
Draught, summer freeboard	10.90 m
GT	15,775grt
NT	7,697nt
DWT, summer freeboard	25,080dwt
Tank capacities, cbm:	
Cargo tanks	28,283
HFO	936
MDO	113
Ballast water	10,970
Main engine: one Wärtsilä 9L46C: 9,450 kW at 500 rev/min.	
Service speed	15kt

# DNV establishes German Committee



DNV has established a German Committee, under president Nikolaus W. Schües.

To further its commitment to German shipowners and shipyards, DNV has now established a German Committee – the first meeting of which was recently held in Høvik, Norway

The committee consists of 18 leading representatives of the German shipping industry. They are able to enforce their interests with the assistance of DNV, and particularly want to influence international committees, such as the IMO, IACS and EU organisations.

Speaking at the inaugural meeting, DNV Maritime chief operating officer Tor E. Svensen indicated that the committee has been established to share information and exchange views on market policy and class-related issues. "In this new body, competent representatives of the industry will be able to advise and make important contributions to the continued advancement of DNV in Germany."

The founder members are appointed for three years. Nikolaus W. Schües, owner of the Reederei F. Laeisz shipyard, is act-

ing as chairman. Regarding his tasks in the German Committee he says "DNV is one of the leading classification societies worldwide. The German Committee will therefore contribute to deepen other parties' experiences of DNV and its innovation and services for the benefit of all parties involved."

Founder members of the German committee:

- Nikolaus W. Schües, Reederei F. Laeisz, Hamburg/Rostock
- Ian Beveridge, Bernhard Schulte, Hamburg
- Dr. Klaus Borgschulte, Werft Blohm + Voss, Hamburg
- Klaus Bunnemann, Reederei Hermann Dauelsberg, Bremen
- Christian Fritzen, Peter Döhle, Hamburg
- Fred Garbe, Flensburger Schiffbau-

Gesellschaft, Flensburg

- Peter Harren, Peter Harren & Partner, Bremen
- Roland Höger, Komrowski Befrachtungskontor, Hamburg
- Tom Jacob, Reederei Ernst Jacob, Flensburg
- Jürgen Kennemann, Aker MTW Werft, Wismar
- Lambert Kruse, Meyer Werft, Papenburg
- Werner Lüken, Lloyd Werft, Bremerhaven
- Bernd Peterson, Reederei Hans Peterson & Söhne, Rendsburg
- Thomas Rehder, Reederei Carsten Rehder, Hamburg
- Peter Rybarczyk, Reederei 'Nord' Klaus E. Oldendorff, Hamburg
- Jan-Wilhelm Schuchmann, Bugsier-, Reederei- und Bergungsgesellschaft, Hamburg
- Albert Schumacher, Reederei E. R. Schifffahrt, Hamburg
- Jürgen Wehr, Reederei Oskar Wehr, Hamburg

The secretary of the German committee is Jörg Langkabel, DNV Hamburg.

For more information contact:  
Jorg.Langkabel@dnv.com

# DNV North America Committee meets in true maritime venue

DNV North America Committee provides valuable feedback on classification services.

The DNV North America Committee, which is made up of senior maritime executives, generally at the CEO/President level, meets annually for lively discussions and debates on top level policy issues and to provide DNV valuable feedback on our classification services. Indeed, at the recent NAC meeting on 19 March, the Committee meeting took place on board the Royal Caribbean cruise ship *Brilliance of the Seas* while the ship was docked in the

port of Miami. Harri Kulovaara, Senior Vice President of Royal Caribbean and NAC Vice Chairman, kindly arranged for the first class meeting facilities and a tour of the ship following the meeting.

The agenda focused on four major issues: risk management, personnel competence and manning, the International Ship and Port Security Code, and engine room fire safety, including the need for DNV to approve the latest fire-extinguish-

ing agents, which have proved to be considerably more effective than approved fire extinguishing agents.

The exchange of ideas and discussions followed presentations made by Miklos Konkoly-Thege, which focused on our quality goals and performance and the Maritime North and South America Year in Review and the Role of Class, presented by Blaine Collins. Both Captain Graham Westgarth, President, Teekay Marine Services and Committee Chairman and Paal Johansen, District Manager Gulf and Caribbean, addressed seafarer competence. Captain Westgarth described the Teekay competence management program for seafarers, Project Seafarer Competence for Operational Excellence (SCOPE), while Paal Johansen presented DNV SeaSkill.

Teekay is presently on track to be the first company to have its competence management system certified by DNV SeaSkill. Captain Graham Westgarth also presented the Teekay corporate risk-management program, and Jens Lassen, Vice President of Royal Caribbean discussed the Royal Caribbean project to manage its brand quality. Jens Lassen also presented the steps Royal Caribbean has taken to minimise the possibility of engine room fires and, in those cases they do occur, to minimise any potential damage. Admiral Thomas Gilmour, US Coast Guard, updated the committee on how the U.S. Coast Guard will implement the ISPS Code in July 2004.

The secretary of the DNV North America Committee is Blaine Collins, DNV New Jersey.

For more information contact:  
[Blaine.Collins@dnv.com](mailto:Blaine.Collins@dnv.com)



Brilliance of the Seas

Photo: Royal Caribbean

The following information is a brief encapsulation of regulatory issues affecting the industry and meant solely for the purpose of keeping readers informed. For additional information, please contact Arve Myklebust at +47 67579900, or send an email to [arve.myklebust@dnv.com](mailto:arve.myklebust@dnv.com)

# SOLAS Chapter XII finalised

## Bulk carrier safety

At the 47th Session of the Sub Committee on Design and Equipment (DE) a working group on Bulk Carrier Safety finalised the draft SOLAS Chapter XII (Additional Safety measures for Bulk Carriers). The report will be sent to the Maritime Safety Committee (MSC) in time for its 78th session in May 2004. The report may be found under this address:

[www.dnv.com/publications/classification\\_news/regupdate.asp](http://www.dnv.com/publications/classification_news/regupdate.asp) (under 'downloads')

The draft amendments include sections relating to the alternate hold loading ban, precise definition of bulk carrier, definition of 'empty hold', and the definition of width of double side space on hybrid construction. The report defined a bulk carrier as 'a ship which is intended primarily to carry dry cargo in bulk'. It includes both ships with single side skins and ships with double side skins.

With regards to the ban on alternate hold loading, it was proposed that a bulk carrier of 10 years or more and not having sufficient strength to withstand flooding of any one cargo hold, when carrying 90 percent or more of its cargo capacity, shall be carrying at least 10 percent of the hold maximum allowable cargo weight in any cargo hold.

For longitudinally framed ships of double hull construction, the minimum clearance is to be 800mm; for inner and/or outer skin transversely framed ships, the minimum clearance is to be 600mm. Adoption is likely to take place at MSC 78, and the regulation will then come into force 18 months later (June 2006).

## Permanent means of access

DE 47 also considered submissions by Greece, INTERTANKO and OCIMF, Korea, and IACS to revise SOLAS Ch. II-1/3-6 and its Technical Provisions. An unofficial group discussed the matter and presented a draft report which can be found on [www.dnv.com/publications/classification\\_news/regupdate.asp](http://www.dnv.com/publications/classification_news/regupdate.asp) (under 'downloads') was accepted and forwarded to MSC 78 for approval. It shall be noted that if these amendments are approved and finally adopted by IMO, there will be a possible period of 18 months where the SOLAS requirements on permanent means of access will be more severe than those amended. IMO is aware of the situation and is working to find a solution to avoid it.

## Accidents with lifeboats

The DE sub-committee raised several issues regarding life-saving appliances and considered in-depth measures to prevent accidents with lifeboats. The session ended with agreement on three draft MSC circulars in this respect: Prevention of accidents in high free-fall launching (20m+); Guidance on safe practices during abandon ship drills using lifeboats; and Guidelines for simulated launching of free-fall lifeboats. Further, the sub-committees' action-plans for prevention of accidents were updated and a request for new requirements for basic safety training with free-fall lifeboats was referred to the STW sub-committee.

## Free-fall lifeboats with float-free capability

As instructed by the Maritime Safety Committee (MSC), a new SOLAS regulation requiring bulk carriers of 85m or more to be fitted with free-fall lifeboat was drafted. Requirement for these lifeboats to be capable of free-float release was also proposed, but there was a lot of discussion about the nature of the release functions associated with this type of craft. Despite the discussions, both draft requirements were forwarded to the MSC for a decision.

## Fast rescue boat and means of rescue

It was noted that as the industry has grown more confident with this kind of equipment, there is no need to change existing regulations in this respect. It was also concluded that training with fast rescue boats needs to be enhanced, noting that the STW sub-committee is currently working on this issue. To put a stop to different interpretations of current requirements, the sub-committee concluded that a fast rescue boat should as a rule not be regarded as means of rescue.

## Review of the 2000 HSC Code

Australia has proposed certain technical revisions in the HSC Code. It was also proposed to extend the revision interval of the HSC Code from its current four years to six or eight years.

No real deliberations were made on these issues as it was agreed to prepare proposals for amendments in an intercessional correspondence group for consideration at the next session. DNV will participate in this group.

#### DE 47 – Amendments to Resolution A. 744(18)

The DE subcommittee has established a Working Group on Amendments to Resolution A.744(18) under the chairmanship of DNV's Knut Vågnes (Norway).

The working group finalised the proposed amendments to the Enhanced Survey Guidelines (ESP), which were approved by the DE subcommittee, taking into account documents submitted by IACS and the Norwegian and Japanese governments, as well as the strict requirements of the Condition Assessment Scheme (CAS).

The working group also prepared draft amendments to SOLAS requiring as-built construction drawings and other plans showing subsequent structural alterations to be maintained on board and ashore by the Owner.

The following main amendments have been incorporated into Res A.744(18).

- Completely new annex covering enhanced survey guidelines for double hull oil tankers.
- Improved survey preparations, including Survey Programme and Survey Planning Questionnaire based on CAS.
- Improved personnel safety during surveys, including more explicit requirements regarding the use of rafts or boats.

- Use of two surveyors for surveys of older ESP ships.
- Improved control of the Thickness Measurement process.
- Improved survey reporting principles.
- Increased close-up survey requirements for cargo oil tanks on single hull oil tankers.
- Enhanced surveys of bulk carrier cargo hatch covers.
- Incorporation of IACS UR S30 'Cargo hatch cover securing arrangements for bulk carriers'.

The proposed amendments to Resolution A.744(18) will be submitted to the MSC 79 meeting in December 2004 for approval.

#### Ballast water convention

A new international convention aimed at preventing the spread of harmful aquatic organisms carried by ships' ballast water was adopted by the IMO at the international conference on 13 February 2004.

The International Convention for the Control and Management of Ships' Ballast Water and Sediments will require all ships to implement a Ballast Water and Sediments Management Plan and carry a Ballast Water Record Book.

Furthermore, all ships will be required to carry out ballast water management (BWM) procedures to a given standard. Existing ships will be required to do the same as newbuilds, but after a phase-in period.

Convention signatories will be able, should they wish, to implement additional measures which are subject to criteria set out in the convention and to IMO guidelines yet to be developed.

Once the BWM Convention has been ratified by 30 IMO member states representing 35 percent of world merchant shipping tonnage, it will enter into force 12 months later. Some shipowners have queried the timescales laid down by the new rules, as well as whether they can modify both existing ships and designs for new vessels in the manner specified.

The International Chamber of Shipping stated that the new rules do not contain the clarity required and called for further work to be done to correct these anomalies.

Source: Tanker Operator

# New Rules for double-hull tanker scantlings available by June

The drive to develop common Rules for scantlings for double-hull tankers over 150m in length is nearing completion following the result of a joint effort between the American Bureau of Shipping (ABS), Lloyd's Register and Det Norske Veritas (DNV)

The Joint Tanker Project has its origin in the so-called 'Ten Commandments' issued by ABS, Lloyd's Register and DNV in March 2001. The driving force behind these initiatives was to ensure that classification societies would not compete on standards. A particular emphasis was on greater transparency, consistency of approach and the improvement of the overall quality of the world fleet.

In early 2002, the three societies took the decision to develop a new set of common Rules for oil tankers which would not only help to achieve the aim of doing away with competition on standards, but would also represent a deliberate effort to enhance robustness by design. Following a meeting between the three societies in January 2002, a steering group was established which currently comprises Jim Card, Senior Vice President of Technology, ABS; Vaughan Pomeroy, Manager of Research and Development, Lloyd's Register; and Bjørn K. Haugland, Manager of Maritime Development Centre for DNV. In addition, an external review group was nominated to act as a sounding board to provide advice and to comment on the proposed course of action at various stages during the development of the Rules.

## Relationship with IACS

Although the Joint Tanker Project was conceived by ABS, Lloyd's Register and DNV independently of the International Association of Classification Societies (IACS), its progress has coincided with the ongoing debate surrounding new-building standards within the industry and the decision by the IACS Council to devel-

op common structural Rules. The discussion at the International Maritime Organisation (IMO) about the introduction of goal-based standards has also been influential.

The Joint Tanker Project has been adopted by IACS as a pilot for the ongoing development and implementation of common Rules across the member societies. In fact, IACS currently has two principal pilot projects ongoing – the Joint Tanker Project and the Joint Bulker Project, for the development of common Rules for double-side skin bulk carriers.

## Scope of the new Rules

Current classification society Rules have evolved over many years and have been mainly developed on an empirical basis. However, this is not always transparent to the user, and there have been many calls from the maritime industry for classification societies to adopt an approach which would lead to the development of Rules that are more easily understood and based on clearly identifiable scientific principles.

Service history and statistical records have demonstrated that ships constructed to the existing Rules are of a satisfactory standard. The new set of Rules would provide, through transparency, a better understanding of the design principles underpinning them.

In order to satisfy the call by industry for greater 'robustness', it was decided that this quality would principally be defined in terms of safety and longevity, resulting in a special focus on fatigue life and wastage during the development of the new Rules.

Other enhancements include basing



The new set of Rules will provide greater robustness in ship design.

the Rule design wave loads on the existing IACS Unified Requirements where possible, or deriving them from wave statistics of the North Atlantic sea area specified in IACS Recommendation 34; and inclusion of a unified, mandatory set of requirements for fatigue assessment based on a 25-year design life which replaces the various approaches developed by the three classification societies.

## In the future

The move by ABS, Lloyd's Register and DNV to develop and implement these new Rules has been applauded and welcomed by the industry and is in keeping with the spirit of goal-based standards. Indeed, it is believed by many, not least those within the classification sector, that the Joint Tanker Project will set a standard that will have an enduring and positive impact on the industry and on the quality of the world fleet. The new Rules will be available for hearing to the industry in June 2004, through the technical committees of the three societies, and come into force July 2005.

For further information contact:

*Bjorn.Haugland@dnv.com or*

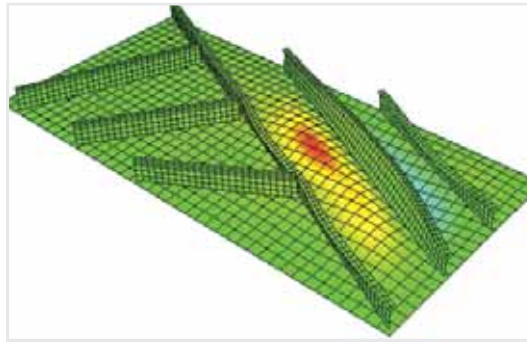
*Rune.Torhaug@dnv.com*

*The above is an edited version of a paper jointly written by Bjørn K. Haugland, Vaughan Pomeroy, and Jim Card. Vaughan Pomeroy presented the paper at the Royal Institution of Naval Architects' Design and Operation of Double-Hull Tankers conference on 25 February 2004.*

# New panel buckling assessment method developed

DNV has introduced a method for assessing buckling and ultimate strength limits of stiffened panels following the success of extensive research and development tests at its hydrodynamics and structures division.

Designated the acronym PULS (Panel Ultimate Limit State), the new computerised buckling code is a recognised method for assessing stiffened panels being subjected to the simultaneous action of in-plane loads such as bi-axial compres-



3D graphic of buckled stiffened panel using the PULS Explorer/GUI interface.

sion, tension and shear stresses in combination with lateral pressure.

The PULS code is implemented as a part of the ship newbuilding rules from 2004 and constitutes the basic SiO method for assessing corrosion allowances, the allowable thickness diminution for hull structure. It is also being implemented as part of the Nauticus Ship Hull package for automatic

buckling control.

Consisting of advanced mathematical buckling models embedded into simple and user-friendly computer interface for quick strength assessments, the

computerised code is available in two different stand-alone user interfaces: the Explorer/GUI and the Excel.

The Explorer/GUI version provides easy access to 3D graphics of different results like buckling modes, redistributed stress patterns, and affords a greater understanding of the physical behaviour of non-linear buckling response, while the Excel interface is fast and

convenient to use for automatic buckling control of many real cases. Optimum weight design is also provided using the Excel interface.

The PULS stand-alone software is offered as a package for downloading from DNV Software's home page [www2.dnv.com/software/](http://www2.dnv.com/software/) (under Nauticus/PULS menu). PULS 1.5 version is currently available, and an updated 2.0 version will be released in April.

*For general information on software, downloading and rules, contact: [Vehjorn.J.Guttormsen@dnv.com](mailto:Vehjorn.J.Guttormsen@dnv.com)*

*For more technical information, contact: [Eivind.Steen@dnv.com](mailto:Eivind.Steen@dnv.com)*

# Thruster CM – an alternative to the normal thruster survey scheme

A new alternative to the normal thruster survey scheme based on condition monitoring for propulsion and DYNPOS thrusters has been launched by DNV. The new scheme will reduce the scope for the intermediate survey and thus not require internal examination of the underwater part of the thruster housing. This means in practical terms that DNV will not require the docking of a vessel for intermediate thruster survey as long as the results from the condition monitoring are within acceptable limits.

Called *Thruster CM*, the new survey scheme is based on analysis of regular vibration and oil analysis carried out by the crew. The results shall be analysed and documented and relevant actions shall be taken when required.



Vibration monitoring of a thruster by the crew and DNV during an implementation survey.

In order to obtain approval of this condition monitoring alternative, the following process applies:

- The technical manager of the vessel applies for a Company Approval for use of condition monitoring along with required documentation.
- Upon completion, a certificate will be issued allowing the manager to request an implementation survey onboard.
- The implementation survey is carried out onboard in order to establish a baseline for the condition monitoring measurements, and to verify that the procedures

that are approved are followed up. Based on a successful implementation survey onboard, the vessel is approved for *Thruster CM*.

Upon completion of the approval process, an annual survey is carried out to verify that the arrangement is followed up according to the rules.

Reference is made to DNV Rules Part 7, Chapter 2, Section 2 H and Classification Note 10.2 Appendix H.

*For more information about Thruster CM, contact [mtpno867@dnv.com](mailto:mtpno867@dnv.com)*

**In 2004 we will be exhibiting at:**

**Sea Japan**  
14–16 April  
Tokyo, Japan  
DNV contact:  
Shunichiro.Namikawa@dnv.com

**Posidonia**  
7–11 June  
Piraeus, Greece  
DNV contact:  
Nikolaos.Boussounis@dnv.com

**Baltexpo**  
7–10 September  
Gdansk, Poland  
DNV contact:  
John.Lyng@dnv.com

**SMM**  
28 September–  
2 October  
Hamburg, Germany  
DNV contact:  
Joerg.Langkabel@dnv.com

**Seatrade**  
Middle East Maritime  
6–8 December  
Dubai, United Arab  
Emirates  
DNV contact:  
Christer.Borjesson@dnv.com

**We welcome your thoughts!**

Regular readers may observe that this issue, the first of 2004 appears with a few changes. Hopefully these will contribute to an overall improvement, and help make for interesting and enjoyable reading.

We welcome your thoughts.  
To comment, please call us at Corporate Communications +47 67579900 or email [ClassNews@dnv.com](mailto:ClassNews@dnv.com)

Stuart Brewer, Editor

*Classification News* is DNV's marine-focused technical publication. The bi-monthly newsletter is intended to provide readers with DNV views, news and research developments. Editorial content is gathered from senior management and regional offices around the globe. The newsletter is free of charge and is distributed to DNV customers and industry players worldwide. It may be viewed electronically at [www.dnv.com/maritime](http://www.dnv.com/maritime) under **'shortcuts'**

*Classification News* is produced by DNV Corporate Communications and designed by Anja K. Fjellman, DNVE Graphic Communications.

Editorial consultant: Patrik Wheeler

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