

DNV Maritime News

Information from DNV to the maritime industry No. 1 January 2008

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implements
Hull Integrity
Management

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Front cover photo:
Combination vessel *Bantry* operating with dry bulk and liquid caustic soda solution.
Photo courtesy of Klaveness

World First for HHI Korea and DNV

HHI's Offshore Shipbuilding Division has launched the first VLGC to be built on land, transported sideways onto a barge and then towed out to the Ulsan anchorage for launching.

The 82,000 cbm *BW Prince*, for owners BW Gas ASA, is a world first to be built and launched in this manner. Building ships without a drydock has become a specialty of this HHI division and the success of this LPG carrier is the start in a series of this ship size for a number of owners with DNV class.

The vessel being 225m long, 36.6m broad and 22.0m deep, it is a formidable task to transfer it from building blocks to launching barge without incident. The Air Pad Sliding system has been successfully used in the launching of 105,000 grt tankers in the past but was extended by two slide sections, one at each end, to accommodate the structure of the LPG ships and limit the stresses applied to the hull during the transport process.

The unsupported length is approximately 64m forward and 40m aft.

Chinese oil imports on Chinese-owned tankers

DNV is well positioned when the Chinese authorities increase their fleet of oil tankers to ensure China's oil imports.

The Chinese-flagged tanker fleet is expected to increase rapidly over the coming five years from the current 22 Chinese-owned tankers. There are 27 more on order, and the fleet is expected to number 90 by the end of 2012.

The first very large crude carrier (VLCC) delivered to a Chinese owner, COSCO, in late 2002 was classed by DNV. Recently, orders to build two new VLCCs to DNV class for Chinese owner AMCL were signed at Dalian Shipyard.

DNV has achieved a respectable market share of 37 per cent for the vessels presently on order for Chinese owners in mainland China. All the vessels are classed under a dual class scheme with China Classification Society (CCS).

Further development of this dual class scheme and business planning for the new CCS & DNV Technology Institute were among the topics at the CCS/DNV cooperation board meeting in Beijing recently. CEO Henrik O. Madsen headed DNV's delegation and emphasised his apprecia-



BW Gas ASA's LPG carrier *BW Prince*, built by HHI, was towed to Ulsan for launching.

tion for the results achieved, "By working together on these strategic initiatives we will deliver more value to our Chinese customers."

Dyvi signs Nauticus Construction contract for newbuildings in China and Singapore

Dyvi AS recently signed a contract worth USD 36,000 for the use of DNV's Nauticus Construction project quality management software on three newbuildings.

The contract allows Dyvi to use the web based software for following up the design and building of a 10,000 grt crane vessel, the hull of which will be built in China and outfitted in Singapore whilst simultaneously following up two vehicle carriers being built at the Samjin shipyard in China.

Says Pål Gilde, project manager for the crane vessel: "Nauticus Construction allows us to keep all documents, information and correspondence for these distributed projects in one database accessible via the Internet at any time from China, Singapore or in our head office outside Oslo, Norway. We shall also improve our efficiency by implementing standard work processes and improving teamwork regardless of geographical location."

Says Richard Badham, customer service manager at the Nordic Maritime Service Centre: "DNV has more than 15 highly valued customers using Nauticus Construction worldwide on newbuilding and conversion projects. They all wish to use it in future projects. I see this software as an important tool for increasing customer satisfaction and quality management in shipbuilding, not least in developing countries. Nauticus Construction helps our customers help themselves, ultimately freeing some of our scarce resources to work at a higher level in the quality chain."

Singapore – geared for repairs, but gearing up for newbuildings

The number of newbuildings under construction in Singapore has increased and is today higher than ever in the past decade. At year-end, the number of DNV newbuildings in progress will most probably be close to 30.

Singapore cannot compete with China, Japan or Korea; they are in a different league. But Singapore is focusing on niche products in the market – either smaller or bigger vessels. The common denominator is higher value vessels, the hulls of which are built outside Singapore and which outfitting is completed in Singapore.

One of these, the world's largest single pedestal 5,000-tonne heavy lift crane vessel, was recently signed to DNV class. The hull will be built in China, while the vessel will be outfitted in Singapore. Dyvi Offshore will be the owner of this giant when completed in mid-2010.

Before that, in 2008–2010, 24 more vessels to DNV class will be delivered from Singapore and Batam, which is located just 20 miles across the Singapore Straits in Indonesia.

The giant crane vessel is an example of the really big vessels to be built in Singapore, but the majority of the other newbuildings are smaller high-value vessels for the offshore industry – for example anchor handling tugs, supply vessels and standby vessels.

Singapore is the crossroads where East meets West; it is better positioned for ship repairs than most of its competitors. Based on the increased trade and higher number of ships in operation, Singapore will be well positioned for docking and repair work in the future.

For DNV Maritime in Singapore it is not an either/or question when it comes to ships in operation or newbuildings. Even if the increased newbuilding activity is a peak based on the global boom, it is an interesting peak, containing advanced and specialised vessels, that is a challenge for everyone.

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DNV Academy developing shipbuilding in Vietnam

No other country has as many surveyors attending the internal DNV Maritime Accelerated Surveyor Training (MAST) programme. Currently nine out of 30 participants are from Vietnam.

With the high growth rates in Vietnam's maritime industry, obtaining qualified personnel is a major challenge. The DNV Academy is helping fill the gap.

The demand for skilled labour is a challenge for the Vietnamese industry in general and DNV in particular. The DNV Academy is a way to transfer knowledge and expertise that DNV has acquired over decades in the maritime sector, not only for the direct benefit of customers but to make the ship classification process run more smoothly for DNV.

The head of DNV Academy Vietnam, George McHenry, explains: "The long-term objective is to support the development of the ship newbuilding industry in Vietnam to ensure that its products satisfy the requirements of international rules and standards. To achieve such an objective, we must deliver high quality training programmes for Vinashin (Vietnam Shipbuilding Industry Corporation). At the same time, we also have to do internal DNV training.

"The DNV Academy is a national training concept serving a national shipbuilding industry that has huge ambitions. By providing Learning for Development, DNV Academy Vietnam will be an important instrument in the development of the Vietnamese shipbuilding industry.

"I would like to see the Academy expand further during the next couple of years, by setting up two or three additional training facilities around the main clusters of shipbuilding yards stretching along the Vietnamese coast from north to south," says George McHenry. "It will be crucial throughout to provide high quality training that makes the learning stick and the knowledge transferable to the work place."

OSM Ship Management benefits from DNV's expertise

DNV will carry out a security assessment for OSM Ship Management.

The project will demonstrate DNV's ability to combine know-how on crossing



New surveyors during a hike in the mountains around Pusan.

borders and industries to deliver the best service possible.

The Norwegian ship management company OSM is a long-term client of DNV Maritime. OSM has ordered a security assessment of a business critical application. The aim is to ensure that information is safe and secure, as well as having a stable application. Specialists from DNV IT Global Services UK will try to hack the application to reveal security flaws, while at the same time, engineers from DNV IT Global Services in Germany will scrutinise the source code in order to check its resilience. A workshop on release management and best implementation practices of new software versions will also be conducted.

"It looks like the maritime industry is opening its eyes to these kinds of services. While IT safety assessments have been highly valued by industries such as finance and telecommunications for years, the maritime sector has been quite absent. But enhanced need for process automation combined with new safety regulations increases the demand for safe and reliable IT systems," says project manager Per-Christian Nødtvedt from DNV Industry.

"What is unique about this project is that it comprises know-how from DNV IT Global Services in various countries, and also draws on project management experience from DNV Industry in Norway, in order to provide the best services for the client," says project sponsor from DNV IT

Global Services, Torgeir Brovold.

He is in no doubt as to why DNV IT Global Services is so highly valued: "DNV's extensive maritime background and strong technical depth, combined with our knowledge related to process improvements and skill development, provides us with a great competitive advantage in the maritime market and positions us well in terms of future business opportunities."

Joachim Lunde

DNV's expert advice sought by US Congress

DNV played an important part in a recent hearing on commercial fishing vessel safety in the US Congress, which could lead to improved US safety regulations.

DNV vice president and regional manager for the Americas, Blaine Collins, testified on behalf of DNV to the Coast Guard and Maritime Transportation Subcommittee, part of the Committee on Transportation and Infrastructure. The US Congress has decided to put extended focus on fishing vessel safety after several incidents and capsizes during the past few years. DNV was asked to provide advice from the classification society point of view.

"This illustrates the integrity and position DNV has in the US maritime market. Our recognised international expertise

and our long presence in established maritime nations made us the first choice for the Congress," states Blaine Collins.

Fishing is a rather fragmented industry and statistics are not readily available, but today, only 20 out of 4,500 US fishing vessels in service, in lay-up or under construction are classified. While international treaties apply to merchant ships, very few regulations apply to fishing boats, partly due to their size, which is one of the major reasons why fishing remains a high risk occupation.

To raise the safety standards for fishing vessels and close the safety gap between fishing boats and other vessels, Blaine Collins proposed two actions. First, that all fishing vessels longer than 24m should be built, operated and maintained according to the rules of a recognised class society. Secondly, that the US government adopt the Torremolinos International Convention for the Safety of Fishing Vessels, a set of safety requirements for fishing boats adopted by most European coastal nations. Collins also recommended that the US seek and implement international regulations, rather than national, in order to work for a uniform standard throughout the world, since many fishing vessels trade outside of their domestic shores.

"DNV will continue to cooperate with the US government and provide any additional information necessary to provide the Congress with the best decision making information possible before a new act is passed," Blaine Collins concludes.

If classification should become mandatory, this could lead to considerable new business opportunities in the US fishing vessel market, especially on newbuildings. At present, DNV has approximately 30 per cent of the US market.

Joacim Lunde

New standard strengthens VLOCs

DNV is the classification for close to half the world's fleet of very large ore carriers. This experience has provided unique insights to the demanding structural requirements on these giants of the sea. Owners also recognise that about 37 per cent of the trading routes of these ships is in a harsh environment.

Such ships are subject to buckling on the deck and at the bow. Cracks potentially appear in side longitudinals, longitudinal coaming brackets and also in bottom longitudinals. The forward bottom is also subject to indentation and slamming.

Another area where DNV has invested extensive research is in wave induced hull girder vibrations, namely springing and whipping. Springing is caused by resonance, while whipping is caused by impact loads such as bow wave impact. From full scale measurements, we have seen that heading into harsh weather in ballast condition has the biggest effect. The vibration level, and its consequence on fatigue and ultimate loading, has been further documented through extensive model testing performed in cooperation with the Norwegian University of Science and Technology.

The waves causing springing may be small and distance between waves might be in the order of 1/10 of the ship length and only a couple of metres high. For a 300m long ship these waves appear as ripples. Detectable whipping, on the other hand, occurs in high sea states, and may be counteracted by reducing the speed and changing the ship's heading. To date, current classification societies' rules do not reflect whipping and springing as contributors to fatigue damage or extreme loading.

DNV is, however, producing a guideline for taking into account the additional fatigue effect of wave induced hull girder vibrations based on the experience gained from full scale measurements and model testing on blunt ships. DNV is also performing full scale measurements of the phenomenon on other ship types, such as container carriers and gas carriers, in order to modify the guideline so it may be applied to other ship types. Hence, DNV has the tools and experience to counteract these challenges.

For owners, the minimum notation with IACS Unified requirements applicable to Ore Carriers (S1A & S21) and Enhanced survey programme would be $\#1A1$ Ore Carrier ESP ES(O), while an enhanced notation would be $\#1A1$ Ore Carrier ESP ES(O) Nauticus(Newbuilding) BC-B IB(+) NAUT-OC E0 TMON BIS BWME-E(s) OPP-F.

Nauticus(Newbuilding) is a supplement to the main class and on a voluntary basis. Essentially it describes an extended calcu-

lation procedure for the verification of the hull structure: It particularly focuses on FEM procedure within the midship area for determination of main scantlings and also extended fatigue requirements for end structures of longitudinals.

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Celebrating DNV-Oshima ties

Last June, a cherry blossom tree was planted at DNV's head office outside Oslo, Norway to celebrate the 75th vessel built to DNV class by Oshima. The CEOs of the yard, owner and class – Sho Minami of Oshima Shipyard, Trond Harald Klaveness of T. Klaveness Shipping and Henrik O. Madsen of DNV – attended the ceremony.

The vessel, Oshima S. No. 10421, is a 72,000 dwt bulk and caustic-soda carrier. Named the *Bakkedal*, it was delivered on 10 August.

"More than thirty DNV vessels are still on Oshima's order book at the moment, and we're looking forward to throwing a lavish ceremony for the 100th ship, possibly in 2011," says Trond Hodne, DNV Maritime's regional manager in Japan, who is proud of the number of vessels classed to DNV and built by Oshima.

Oshima Shipbuilding Co., Ltd. is located in Nagasaki in western Japan. The yard has 990 employees and the capacity of more than 30 bulk carriers per year. Oshima is well-known as 'the bulk supplier,' not only by Japanese ship owners but also by European, Asian, and US owners. Presenting itself as the 'champion of bulk carriers', Oshima has focused on the study of new designs supported by innovative technologies.

OS-Max 60, the world's largest Handy-max bulk carrier released in early 2007, is a good example of the achievements that have made Oshima such a successful shipyard, and Japan a successful shipbuilding nation. It remains one of the top three nations when it comes to number of vessels built, as well as tonnage built.

Oshima also has strong ties with Norway, having built many vessels for Norwegian owners. King Harald V of Norway chose Oshima as one of his destinations when he visited Japan in 2001.

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CCS-DNV Technology Institute opened in Shanghai

CCS and DNV join hands

On 29 October, the CCS-DNV Technology Institute was inaugurated in Shanghai. It is a joint venture between the two leading class societies China Classification Society (CCS) and DNV.



CCS chairman and president Li Kejun (left) and DNV president and CEO Henrik O. Madsen opened the CCS-DNV Technology Institute.

The institute is the first of its kind in China. It aims to support both the maritime and offshore industries on various laboratory and research challenges. The first phase will focus on coating testing to respond to the IMO rules on PSPC.

The Institute was opened by Li Kejun, chairman and president of CCS, and Henrik O. Madsen, president and CEO of DNV. The grand opening ceremony held in Fengxian, outskirts of Shanghai, was attended by You Shumin from COSTIND, Li Qingping from Maritime Safety Administration, Zhang Guangqin, chairman of China Shipbuilding Industry Association, and other representatives from the shipping and shipbuilding, energy and coating industries.

Speaking at the ceremony, Li Kejun said: "China is experiencing fast economic

growth, and innovation is high on the agenda. DNV and CCS both focus on quality and technology, and we invest hugely in research and development. This cooperation between the two parties will definitely enhance the fast development of the Chinese shipping and offshore industry and will further contribute to the world maritime industry."

Said Henrik O. Madsen: "DNV has a long history and has accumulated vast experience and competence in its development. We have long commitment to China. CCS and DNV have a long, proven cooperation based on trust and respect, and we firmly believe that with strong support from both parties, the joint venture will benefit the Chinese maritime and offshore industries, thereby strengthening the world maritime and energy markets."

The institute's coating laboratory was started up at the opening ceremony. The laboratory performs testing according to the IMO's PSPC requirement of prequalification testing of coatings for seawater ballast tanks. The practical testing is to simulate exposure by submerging samples into a tank of seawater and replicating the movement of the ship for 180 days.

The Institute will expand its laboratory services into fuel, lub oil testing and materials and strength during the next phases.

DNV has more than 250 employees working with materials technology and structural integrity at laboratories in Norway, Singapore, Malaysia and the US.

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Bohai Shipyard's new mega dock put into production DNV classes the first vessel

Recently, Bohai Shipbuilding Heavy Industry Co (BSHIC) celebrated the establishment of its new mega dock, No. 2 Shipbuilding Department, where the first VLCC of a series of four for CSC Nanjing Tanker Company started construction in July. The four VLCCs are all on the new dual-class scheme with DNV/CCS.

The completion of the new facilities brings the yard's capacity from the original 500,000 dwt to 2,000,000 dwt. The new dock will mainly be used to construct complicated ship types such as 180,000 dwt bulk carriers, 6,690 and 8,024 TEU container ships, 300,000 dwt VLCCs and 388,000 dwt VLOCs.

Ranked as the world's 26th largest shipyard by Clarkson in mid-2006, the shipyard now has newbuilding orders of 7.18 million dwt. Among them, DNV has 3.714 million dwt, representing a 51.7 per cent market share in the yard.

According to site/project manager Yan Ma, DNV has additional newbuilding projects at the yard including:

- Two 320,000 dwt VLCCs for Bergesen Worldwide
- Four 388,000 dwt VLOCs for Bergesen Worldwide, which represents the world's largest ore carriers
- Two Suezmax tankers for Fred. Olsen

"This is the result of ten years' continuous effort by providing technical support and solutions to this shipyard in the design development of various types of vessels," says Tore Jacobsen, maritime district manager for North China.

"From CEO to surveyors we have established a multi-level relationship with the yard to ensure open, frequent and efficient dialogue," continues Jacobsen.

"DNV will continuously support BSHIC for the development of new types of vessels, for example 180,000 dwt double hull bulk carriers according to CSR and 35,000–50,000m³ LPG carriers," adds Ma.

First vessels classed by DNV

DNV is recognised as the leading international class society in China and is appreciated by the Chinese shipyards for its commitment to supporting the Chinese shipyards on technology development and quality control.

DNV has the first vessels at most of the new main facilities under construction in China, for example:



The brand new dry dock at Bohai is 488 metres long, 107.5 metres wide and ready for the construction of some of the world's largest vessels. The water in the dock is from the first flooding to test the dock. Photo: Bohai

1. Rongsheng Shipyard – the new private shipyard in China, the first newbuilding project the yard is building for Golden Ocean is to DNV class. It is a 75,500 dwt bulk carrier. It is worth mentioning that DNV has now 43 newbuildings of 6.032 million dwt at the yard, representing about 70 per cent of the yard's total order book in both vessel numbers and dwt.

2. Jiangnan Changxing Shipbuilding Base – the first vessel being built at the new shipbuilding base on Changxing Island is a 16,400 dwt chemical tanker for Stenersen, to DNV class.

3. Longxue Shipyard in Guangzhou – its first newbuilding order are four VLCCs for China Shipping Group, to DNV/CCS class.

"To improve technology and competence are the key challenges that Chinese shipyards are facing when they expand the capacity dramatically and at the same time move upward the ship value chain. In this context, it is important for us to provide competent, proactive and solution oriented support to the Chinese shipyards," says Bjørn K. Haugland, regional manager for DNV Greater China.

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Klaveness implements Hull Integrity Management

The major dry bulk operator Klaveness Maritime Logistics has decided to implement DNV's Hull Integrity Management service line. Initially the system will be implemented for six Cabus, which operate as combination vessels, with dry bulk as well as caustic soda.

With more than sixty years of experience, Klaveness is one of the leading providers of commercial management services to owners of Handymax and Panamax bulk carriers. Klaveness Commercial Management operates about 100 bulk carriers, on behalf of 20 ship owners from ten nations.

DNV's Hull Integrity Management (HIM) service line applies to all types of ships, but is not a class requirement, and therefore applies to vessels classed by any class society. HIM consists of four service elements:

- *Hull Competence* courses, focusing on basic strength, structural defects and hull inspection for ship officers and superintendents.
- *Hull Inspection Manuals*, ship-specific and with unique 3D illustrations which identify what to look for during inspections, where to look and how to report it.
- *Nauticus Hull Integrity*, easy-to-use software for planned inspection and maintenance and with unique 3D technology.
- *Hull Advisory Services*, detailed assistance from DNV in connection with repairs and docking.

The four service elements may be used one by one, combined step-wise or form part of a holistic approach to hull maintenance. All the services are based on DNV's extensive hull expertise. It is a practical concept developed over six years – each of the four modules individually has a proven track record, and over the past year the added value of combining these elements has proved itself.

Says Kåre Holm, Fleet Manager for the Cabu fleet: "Our vision is to make ship owning easier, safer and more profitable. Therefore, it was only natural to apply the HIM service line, which seems very useful to ship operators to keep con-



Combination vessel *Bantry*. Photo: Klaveness

tinuous control of the fleet's hull condition."

He continues: "Our Cabus – *Banasol*, *Baniyas*, *Banastar*, *Al Mansour*, *Bantry* and *Bakkedal* – operate as combination vessels, with dry bulk as well as liquid caustic soda solution. We expect that the HIM services will help reduce the risk for corrosion and fatigue problems on these vessels. We also see HIM as an important contribution to competence building among our ship officers, and a means to retain staff. Through the training courses, the Hull Inspection Manuals and Nauticus Hull Integrity, we expect to get a powerful package of modern tools, inspection systematics and competence building for our staff."

Text: Morten Løustad

MEPC56

Marine Environment Protection Committee (MEPC) 56th session – 9–13 July 2007

The Ballast Water Management Convention requires that vessels keel laid on or after 1 January 2009 with ballast capacity below 5,000 m³ be fitted with ballast water treatment system when delivered.

The industry will not be able to deliver sufficient number of ballast water treatment systems in order to meet the expected demand for this category of ships. A delay of 2–3 years is therefore stipulated and the final timetable is expected to be decided at the next meeting of the Committee to be held April/March 2008.

The work on the guidelines for recycling and the text of the draft International Convention for the Safe and Environmentally Sound Recycling of Ships continued. Planned completion is April 2009.

Three different areas concerning air pollution was discussed. On Green House Gas, (GHG), emissions from ships it should be noted that IMO is under considerable pressure from EU and others to make progress in the development of

instruments to regulate and handle GHG emissions, but it has been difficult to make the expected progress. EU measures may therefore be developed.

On Guidelines for On-board Exhaust Gas-SOx Cleaning System, the wash water criteria was not completed, but is expected to be completed at an intersessional BLG sub-committee meeting in October/November 2007 with the view to adopt the Guidelines at MEPC57.

Amendments to the NOx Technical Code is part of the work done on the amendments to Annex VI of MARPOL which is currently in progress and which will continue at the intersessional BLG meeting mentioned above.

Three IACS Unified Interpretations were accepted, covering MARPOL Annex I, regulation 12A and fuel tank piping, the

implementation of the new Revised Guidelines on Implementation of Effluent Standards and Performance Tests for Sewage Treatment Plants, and bilge wells in pump room double bottoms on oil tankers.

At the meeting Panama announced that they would ratify the Anti Fouling System (AFS) Convention. This means that the entry into force criteria for the Convention will be met and the Convention will enter into force from 17 September 2008. The AFS Convention requires surveys and an International Certificate for a ship to document compliance.

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MSC83

Maritime Safety Committee (MSC) 83rd session – 3–12 October 2007, Copenhagen, Denmark

From 1 July 2009 it will be required that Material Safety Data sheets be provided to ships carrying MARPOL Annex I oil and marine fuel oils prior to the loading of such cargoes.

Safety Construction and Equipment Certificates for cargo ships will from 1 July 2009 display “Alternative design and arrangements” and the Passenger Safety Certificates will be amended by replacing the subdivision notations C.1, C.2 and C.3 with P.1, P.2 and P.3.

Drainage in closed vehicle and ro-ro spaces was discussed, however the next MSC in May 2008 shall consider applicability to new or existing ships and whether “devices” (physical installations) are

required or if “measures” (possibly operational actions) will be accepted, prior to adoption.

The development of the Goal Based Standards (GBS) continued along two parallel paths; a short-term prescriptive approach concentrating on bulk carriers and oil tankers and a long-term broader Safety Level Approach (SLA).

MSC approved circulars or draft amendments affecting equivalent water-based fire-extinguishing systems for

machinery spaces and cargo pump-rooms; carbon dioxide system’s releasing controls; sprinkler systems; evacuation analysis for new and existing passenger ships; pump-rooms intended solely for ballast transfer or fuel oil transfer; fixed pressure water spraying and water based fire-extinguishing systems; and fixed fire detection and fire alarm systems for cabin balconies.

MSC approved, in principle, amendments related to Emergency Towing Procedures and Means of embarkation and

disembarkation (such as gangways and accommodation ladders) and adopted a Recommended coating standard for void spaces on all types of ships.

MSC noted the progress made on the comprehensive review of the STCW Convention and STCW Code related to standards of competence for ratings and to training that cannot be conducted on board. MSC agreed that the determination of safe manning should be made mandatory.

Several new traffic separation schemes and routing measures and a new NAVAREA in Arctic Waters were established. Furthermore MSC adopted a resolution on Revised performance standards for INS and a circular on Maintenance of Electronic Chart Display and Information System (ECDIS) software. In addition,

MSC adopted a resolution on Performance standards for navigation lights, navigation light controllers and associated equipment.

MSC also adopted two Circulars on Guidance on the operational implementation of the ISM Code by Companies and on Recommended qualifications of the Designated Person under the provisions of the ISM Code, respectively.

MSC approved in principle the Code of the International Standards and Recommended Practices for a Safety Investigation into a Marine Casualty or Marine Incident (Casualty Investigation Code) for adoption at MSC 84.

IMO has recently focused on the high rate of accidents associated with general cargo ships. The accident risks are higher on general cargo ships compared to other

ship types. At MSC 83, it was agreed that more detailed information was needed to find the cause of accidents to identify problem areas and appropriate risk control options. MSC also recognised the variety of ship types covered by the category "general cargo ship" and intends to develop a definition of "general cargo ship" and a strategy to set a direction on how best to enhance the safety of these ships.

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Use of rubber based insulation on piping onboard ships

It has been brought to our attention that it is common practice in many yards to use rubber based insulation materials such as Kaiflex, Armaflex or similar to insulate sanitary piping (hot and cold water) in the accommodation.

These types of insulation are not non-combustible and shall not be used other than for piping for cold service systems, meaning refrigerated system.

SOLAS Ch. II-2 Reg. 5.3.1 regulates the use of combustible materials on board ships:

3.1.1 Insulating materials

Insulating materials shall be non-combustible, except in cargo spaces, mail rooms, baggage rooms and refrigerated compartments of service spaces. Vapour barriers and adhesives used in conjunction with insulation, as well as the insulation of pipe fittings for cold service systems, need not be of non-combustible materials, but they shall be kept to the minimum quantity practicable and their exposed surfaces shall have low flame spread characteristics."

A definition of 'cold service' can be found in IACS UI SC 102 and MSC/Circ.1120.

The limitation mentioned on page 2 of DNV type approval certificates for these products reads:

"May be used on cold service pipe work/fittings for refrigeration system everywhere onboard, and for pipe work, fittings, air ducts and tanks insulation in cargo areas, mail rooms, baggage rooms and refrigerated compartments of service spaces, and exterior locations.

Extent of application is to be considered and accepted for each case/project.

Each product is to be supplied with its manual for installation and use.

The use of such insulation materials is limited to what the type approval certificate and SOLAS allows. Piping for hot and cold sanitary water cannot be considered 'cold service pipe work/fittings', and therefore this kind of insulation is not accepted for use on such pipes."

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Regulatory developments now and in the future

Tor E. Svensen, Chief Operating Officer of DNV Maritime, is this year the chairman of IACS, the International Association of Classification Societies. In this capacity he recently addressed, among others, the shipowners associations in Singapore and Hong Kong.

In his presentation, Tor E. Svensen discussed the importance of a strong classification society with regards to the technical and environmental challenges facing the industry.

“Class will play an increasingly important role as the shipping industry responds to external demands and takes its own steps for responsible self-regulation,” said Svensen, reflecting on his current role as chairman of the International Association of Classification Societies.

“Unity within IACS and the confidence of the industry at large means that we have a unique purpose within the whole maritime regulatory regime. At my first meeting – after taking up this actual position – with Secretary General Efthimios E. Mitropoulos of the IMO (International Maritime Organisation), he emphasised that class must play a leading role in dealing with the technical and environmental issues facing the shipping industry,” said Tor E. Svensen.

Global expectations placed on shipping are rapidly changing. Multi-faceted environmental issues are but one example of intensified scrutiny of the maritime industry. “Where class plays a role is in its ability to translate safety and environmental objectives into regulations and standards drawing upon our unique technical competence and the experience collected by following the ship throughout its life cycle,” he noted, elaborating that class has assumed the role of “a competent technical body playing an independent role while maintaining the trust and confidence of all stakeholders – not least of which is the public at large.”

The number one priority is to retain the trust and confidence that IACS and class at large have cultivated. Secondly, class needs to foster a focus on quality and competence. Thirdly, IACS must reinforce its role as a ‘maritime technology bank’, a term coined by CCS’ Li Kejun. Finally, class is in a unique position to provide concrete



Peter Cremers, CEO of Anglo Eastern, gave Tor E. Svensen a picture from Hong Kong after the presentation.

insights, utilising feedback from the thousands of ships in operation.

All of these functions or purposes mean that class can play a mediating role in avoiding a fragmentation of regulations. Flag and port states are inherently focused on national interests in addition to global practices. Otherwise IMO and IACS are the unifiers of practice.

“We need basic global standards in the maritime industry. IMO has acted, and will act, to tighten global regulations. We want the regulatory process to be as painless as possible in implementation while still meeting stakeholder demands,” Tor E. Svensen concluded.

Text: Matthew Flynn

DNV Academy Taiwan opened

DNV commits to maritime development in Taiwan

DNV has opened a maritime academy in Taipei. The fifth of its kind in Greater China, DNV Academy Taiwan is dedicated to improving technological and management competence for industry practitioners.

DNV president and CEO Henrik O. Madsen and president of National Kaohsiung Marine University George C.T. Chen officially opened the Academy. Madsen also attended and spoke at the Corporate Social Responsibility (CSR) Forum which was held in conjunction with the opening of the Academy.

“DNV has a tradition of providing training to our customers worldwide. I’m pleased to see DNV Region Greater China succeeding in this tradition, and having formed a wide academy network,” comments Henrik O. Madsen.

“DNV Academy is a way for us to impart knowledge and expertise to our customers by drawing on the decades of accumulated experience, research and development that DNV has accrued globally,” said DNV vice president and regional manager for Greater China Bjørn K. Haugland at the Academy opening ceremony.

“The establishment of DNV Academy Taiwan demonstrates DNV’s further commitment to the maritime industry development in Taiwan,” he added.

The Academy will provide the maritime industry with technical expertise by running regular courses for shipowner technical staff, superintendents, designers and shipbuilders. It offers a wide range of training courses including standard and customised programmes to meet customers’ specific needs.

Each year the courses and seminars run by DNV academies help more than 5,000 participants worldwide gain qualifications and keep updated on technology in a broad range of topics in the maritime field.

Since the first academy was established in Dalian in June 2005, more than 1,500 participants have been trained through DNV’s academy network in Greater China, including Dalian, Hong Kong, Shanghai and Guangzhou. DNV has developed 30 course titles in the region and will continuously develop the portfolio according to customers’ needs.



DNV president and CEO Henrik O. Madsen (left) and president of National Kaohsiung Marine University George C.T. Chen officially opened the DNV Academy Taiwan.

“DNV Academy Taiwan will focus on providing technological training and management support for shipowners, yards, designers and others,” says the newly appointed Taiwan district manager James Wu.

“The maritime industry has been playing a very important role in Taiwan’s economy development. The Taiwan shipping cluster represents world-leading competency. As a leading class society in the district, we see it our responsibility to help the industry to excel in their business,” continues Wu.

DNV senior customer manager Orion Hsu points out that Taiwan attaches great importance on the maritime education, with many training centres in the district, all of which are certified by DNV. Says Hsu: “DNV Academy Taiwan complements with these established local training centres. We will cooperate with them to meet

the increasing training demands from the industry.”

“DNV will continue to reinforce its position in Greater China as a partner to our maritime customers by not only providing classification, certification and verification services, but also by helping the industry improve and develop technological competence. The opening of DNV Academy Taiwan demonstrates this commitment,” concludes Haugland.

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New regional managers in DNV Maritime

“The regional managers for DNV Maritime Korea and DNV Maritime South East Asia and Australia/New Zealand are repatriating to Norway during the autumn according to contracts. We are pleased to announce their successors,” says Tor E. Svensen, COO DNV Maritime.



Helge Kjeøy.



Paal Johansen.

Region South East Asia and Australia/New Zealand

Helge Kjeøy has accepted the position of regional manager, DNV Maritime South East Asia and Australia/New Zealand as the successor to Ragnar E. Hansen.

Helge Kjeøy joined DNV in 1979 after finishing his MSc at the Norwegian Institute of Technology. He currently heads the Department for Ships in Operation at MTP. He has previously worked in the Research Division and in the Offshore Division, in addition to 15 years in various positions within DNV Maritime. His international experience stems from Singapore and Dubai, where he spent a total of seven years as divisional technical manager and district manager, respectively.

Says Kjeøy: “I am very excited to have been given this opportunity, and I promise to do my very best to continue developing DNV Maritime in this important part of the world. Ragnar E. Hansen and his team have been doing a great job, and I look forward to meeting new and old colleagues and together bringing us another step forward.” Helge Kjeøy took over the new position on 8 October.

Region Korea

Paal Johansen has accepted the position as regional manager, DNV Maritime Korea, as the successor to Svein Svarstad. “I am very excited to have this opportunity to continue to develop the good work in this strategic region,” says Paal Johansen.

Paal Johansen started his career in DNV Maritime, Høvik in 1982. Over the years he has gained wide experience within the maritime area. In 1984 he joined DNV Hong Kong Service. After four years in Hong Kong, he was assigned project manager in Sasebo, Japan for a year. He then moved on to Jeddah as area manager for Saudi Arabia. In 1990 he moved back to Kobe, Japan as district manager for the next four years.

In 1994, Paal Johansen and his family moved to Singapore where he was appointed divisional quality manager in Asia & Pacific. After three years in Singapore, the journey continued to Rotterdam, The Netherlands where he spent the next six years, first as operations manager for Management System Certification and thereafter as manager for DNV Maritime’s Training and ISM group.

Paal Johansen completed his Master of Science in Naval Architecture and Marine Engineering at NTNU, Trondheim, Norway in 1980. He participated in the Program for Executive Development at IMD, Lausanne, Switzerland in 1995.

Paal Johansen’s current position is district manager for DNV Maritime Gulf & Caribbean, with a base in Fort Lauderdale, Miami, USA. He will formally assume his position as regional manager in Korea on 1 January 2008. As in most cases of international transfers, he will have a transition period where he will take part in activities both in Korea and the US.

Leading the way

Shipping and logistics specialist MISC Berhad is determined to set standards and aims to establish itself as a leading integrated service provider focused on energy transportation, marine and heavy engineering and offshore floating facilities.



MISC Berhad's Nordin Mat Yusoff, vice president Fleet Management Services.



MISC Berhad's LNG vessel *Puteri Firus*. Photo courtesy of MISC Berhad

"We want to be a global champion, and in order to do this we need to achieve operational excellence and invest in infrastructure and people," says Nordin Mat Yusoff, vice president Fleet Management Services, MISC Berhad – formerly known as Malaysia International Shipping Corporation Berhad.

In just over three decades, the Group has established itself in the fields of liquefied natural gas (LNG), petroleum and chemical shipping, liner and integrated logistics, ship repair and heavy engineering, and maritime education. Its vision is to become 'the preferred provider of world-class maritime transportation and logistics services'.

"As a publicly listed company, MISC has a strong desire to position itself and build up its capacity and capabilities in several sectors" says Nordin. "To achieve this in today's challenging environment, we need to maximise our growth through various means. These include enhancing our reliability, building strong relationships and optimising resources. As we utilise what we have, we can continue to drive MISC into expanding business areas."

Business is going well for MISC. A good foundation for the business was created by

the company's success in the early 1980s. Over the years, the company has built up a diversified fleet and currently operates over 100 vessels and two offshore floating facilities.

Expansion plans

According to Nordin, MISC will continue to grow its energy shipping business through the expansion plans in place for LNG carriers, petroleum and chemical tankers. "In view of the expected down-cycle in the shipping industry, MISC will proactively look for mergers and acquisition opportunities to build critical mass and expand its global coverage," he says.

MISC has also made substantial investments in qualified personnel and procedural areas. Explains Nordin: "We're proud of our achievements, but are continually striving to improve. With our ongoing investment in maintaining a large, modern, high-quality fleet, the assets side is well in hand. The operational procedures area is also important to us and, over the past few years, we have strengthened our best practices through several initiatives, including comprehensive training schemes and ship safety performance."

More recently, MISC began its corporate-driven 'triple plus' initiative, which focuses on three areas: leadership development, behavioural changes and capability building. The latter involves the DNV-supported development and implementation of a capability building programme for Fleet Management Services.

Explaining the background, Nordin points to the escalation of costs driven by costly raw materials and scarcity of resources. "To cope with MISC's aggressive fleet expansion plans and the increasing cost of fleet management and operations, it became critical for us to develop a pool of capable personnel with the right skills, knowledge, experience and mindset to meet the industry's challenges."

Capability building

"As a consequence, we embarked on a capability building exercise and hired DNV as our consultant to build capabilities in the areas of ship superintending, crew management and shipbuilding management. Phase 1, which we concluded earlier this year, involved a review of the systems, processes, tools and procedures, leadership skills, mindsets and behaviours.

We also benchmarked ourselves against industry leaders to assess capability gaps and identify improvement opportunities," says Nordin.

In the next phases, MISC plans to "develop, implement and institutionalise the requisite capabilities within the group," says Nordin and adds, "With the capability building initiatives in place, Fleet Management Services is better positioned to support MISC's business needs."

Christer Farstad, global client manager in Maritime Solutions, DNV's consulting services for the maritime industry, says that DNV's work focuses on operational excellence and the development of new practices to support MISC in meeting its strategic ambition of becoming a leading industrial shipping company.

"In the initial phase, MISC chose to focus on areas that are at the core of its fleet operations – namely maintenance, docking, fuel efficiency, procurement and business performance management. Work is on-going, and we have already provided solutions that have contributed to the bottom line, particularly in the area of fuel efficiency."

With increasing competitive pressure and rising fuel prices, Nordin believes that operational excellence has become a key factor in ensuring cost-efficient operations and asset reliability.

Enhanced competitiveness

"Sound management and investment in operational procedures, infrastructure and people will reduce costs and boost our competitiveness and efficiency. There is no alternative because there will be no future if we don't achieve these goals. We will simply be too expensive," says Nordin.

Commenting on the cooperation with DNV, Nordin says: "For us, it's important to have good relationships with all of our suppliers, subcontractors and consultants, such as DNV, as they are key to achieving optimal services and delivery in a competitive marketplace.

"Given our strategic ambitions, we must seek innovative, international partners to develop relationships that put quality, price and delivery hand-in-hand with efficient services," Nordin Mat Yusoff says and concludes:

"This in turn will help enable MISC to achieve its vision of becoming the preferred provider of world-class maritime transportation and logistics services."

Stuart Brewer

Nagasaki Approval Support Centre opened

The NASC office (Nagasaki Approval Support Centre) is formally a part of Approval Centre Japan in Kobe, but will be an approval support unit available to DNV Maritime.



Y. Nomiya, president of MEDIS (left), and Wilhelm Magelssen, marketing director of DNV, opened the NASC office in September.

Last year was challenging for the shipping industry and the classification societies. The new Common Structural Rules for Tankers and Bulkers were put in force; this required completely new designs.

That challenge has now been conveyed to the classification society, seeing a significantly increased hull approval scope. Combined with a record high number of orders to DNV last year, the DNV Approval Centres foresee a major work volume that may be challenging under the current manning.

The NASC office was opened on 6 September, as a DNV Maritime initiative to smoothly handle the increased work volume under the new Common Structural Rules without compromising the focus towards the yard in their design development.

The new office is currently manned by five engineers and is headed by DNV's Murase-san, but the engineers come from MEDIS and are working on a one-year contract with DNV.

MEDIS is a Japanese design company with some 600 employees of which about half work in the ship section. MEDIS played an important role as the representatives of the Japanese shipping industry under the calibration and consequence studies of the new Common Structural Rules.

DNV Maritime's marketing director Wilhelm Magelssen, cutting the cord during the opening, said: "The new NASC office will have an important role to assist the approval centres in Asia to handle the increased workload without compromising quality."

China: teambuilding on the beach

With more than 700 employees in China, DNV Maritime keeps a steady focus on teambuilding.

DNV Maritime's regional manager for Greater China, Bjørn K. Haugland, has no doubts about his objectives for DNV in China. "My mission is to give our customers first-class support and through that expand DNV's business in this growing market. We consider China, and Greater China as a whole, a real growth area."

DNV was one of the first class societies to set up in China when, in 1888, it established a presence in Xiamen. In 2000, it moved its regional headquarters from Hong Kong to a villa-style office in the park of the prestigious Hong Qiao Guest House in Shanghai. Today it is hugely confident of its prospects in China, a working with both domestic and overseas clients.

DNV has been rapidly expanding in China; recently the company set up offices in Nantong, Jiangsu Province and Ningbo, Zhejiang Province, bringing the DNV



More than 70 employees and families from DNV Maritime's District South China and Hong Kong recently had an enjoyable outing in Hainan.

Greater China network to 31 offices in 21 cities.

The pace is expected to continue. To cope with future demand and market

opportunities, CEO of DNV Henrik O. Madsen recently stated that the number of employees in China could reach 1,000 in a few years.

We welcome your thoughts!

DNV Maritime News is DNV's marine-focused technical publication. The 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.

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