

## NOR-SHIPING CONFERENCE REPORT

# TMSA well received with a few reservations

**TankerOperator's one day conference during the recent Nor-Shipping event was a huge success with almost 70 tanker experts packing the room.**

The day kicked off in a lively fashion when **Ian Hunter**, director marine services, International Marine Transportation (IMT) laid down the law regarding Tanker Management Self Assessment scheme (TMSA). IMT is responsible for the marine quality assessment of all third party vessels used by

involved in the spot charter business by the end of this year. Other OCIMF oil major members are thought to be following suit, although the cut-off dates may be slightly different.

He explained that TMSA is a method whereby shipping companies can measure themselves and their own performance. "It

account the cultural and fleet size differences and the differences in a mixed fleet operation. "It is written for owners of tankers only of a certain size. The cultural differences have not been recognised," he warned. He also thought the scheme mixed key performance indicators (KPIs) and best practices at each stage.

Intertanko's vision for the tanker industry is 'A responsible, sustainable and respected industry able to influence its own destiny.' "We do not want our destiny imposed upon us," Swift explained.

To attain this, the industry had to demonstrate responsibility; engage in dialogue with the public, politicians and the press; deliver solutions for sustainable development and finally deserve and then demand respect.

He quoted what he thought was a breakdown in sustainable development dialogue by citing the case that the majority of IMO flag state members had voted for a ban on TBT containing coatings in 2003, but since then only a handful have ratified the convention.

man of the Intertanko vetting committee and a member of the association's executive committee.

He qualified his statement by saying that the key indicators of - who you deal with - are classification societies, flags, partners, customers and suppliers. He then listed five ways of measuring quality. These were:

- Flag state rules
- Class rules
- Customer requirements
- Insurance requirements
- Statistics.

The ISM Code looks at procedures, aims at continuous improvement and calls for root cause analysis. "If the procedures are run correctly, then there is no need for TMSA," Mossberg asserted.

He thought TMSA had been unilaterally conceived (ExxonMobil/OCIMF). Now that it has been born, it is doing well and that dialogue is needed and indeed offered, Mossberg said. He thought that maintenance was the so called 'swing' factor in shipping and should be looked at as an investment and not in the cost column. "Maintenance comes first, the bank second," he said.

Smaller shipowners - Marinvest has five products/chemical tankers plus four on order - must elicit outside help to cope with the extra burden of regulations, be they self-assessed or mandatory. Mossberg explained that his company



*Ian Hunter gets the approval of chairman Dimitris Lyras*

ExxonMobil and its affiliates. Hunter was one of the principal architects of OCIMF's TMSA scheme.

His main message to the assembled tanker fraternity was 'be known by the company you keep'. In a hard hitting speech, he warned tanker owners operating in the charter market that if an oil major's inspector finds a deficiency on their ships, it will be no good saying we will fix that deficiency, as IMT would still not recommend it to ExxonMobil for a charter.

is not meant to be an ISM Code," he said.

Basically, the floor accepted the principle of TMSA with some reservations, in the knowledge that they had to accept the demands of the oil industry, or suffer the consequences of not being considered for future charter business.

Intertanko's **Peter Swift** was one who basically accepted the principle but with a few reservations. He explained that one major plus point was that the scheme has the potential to reduce the number of inspections on board ship, which every-

**Intertanko's vision for the tanker industry is 'A responsible, sustainable and respected industry able to influence its own destiny.'**

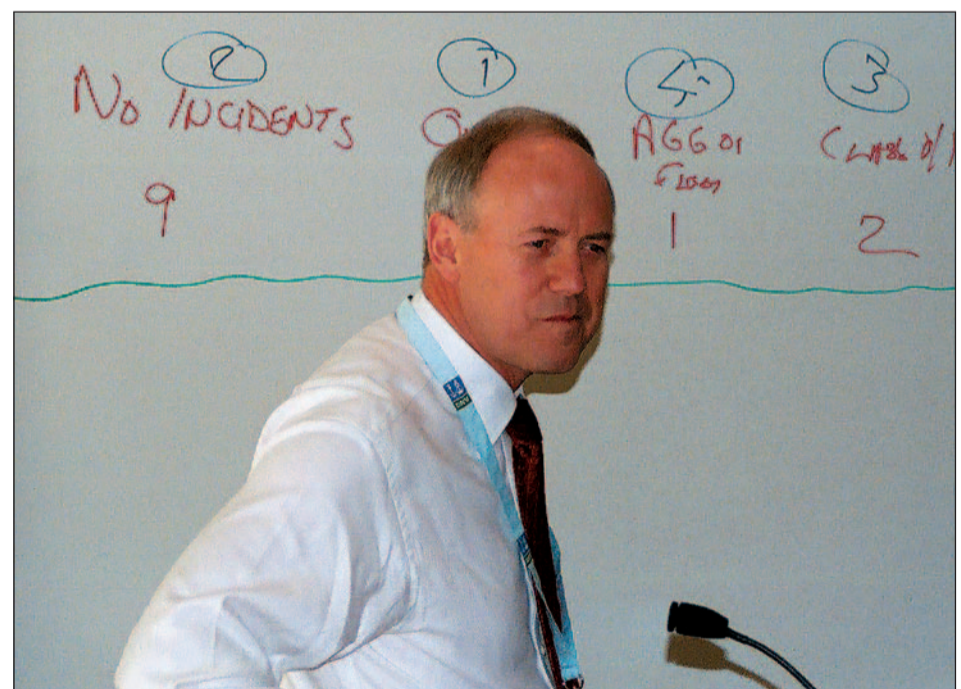
Following an incident the crew can be sacked, but what about the shore-based superintendents and management, Hunter asked. "How deep does it (investigation) go after an incident?"

Hunter confirmed that for timecharters and coas, IMT/ExxonMobil requires potential tanker owners working the charter market to have TMSA in place by September of this year and for those

body agreed had become a bit of a nightmare for the vessel's officers.

"It (TMSA) is well intended even if overly prescriptive", Swift told the audience. One of his major regrets was that there was no prior dialogue with the tanker operators themselves, being a total oil major driven scheme.

Swift took another swipe at the scheme saying that it did not properly take into



*Peter Swift had some reservations regarding TMSA*

Responding, conference chairman **Dimitris Lyras** stressed that quality shipping was being driven by the charterers in the tanker industry.

**Lars Mossberg** of Gothenburg-based Marinvest's philosophy on quality shipping is, "tell me who you deal with and I will tell you who you are". As well as running Marinvest, Mossberg is also chair-

uses Thome Ship Management as a partner to technically manage his ships and DNV as the class society looking after the design and inspection of the ships.

Inspection manuals cost in the region of \$25,000 per ship, which means that those companies having only a couple of vessels will find the cost of adhering to these schemes prohibitive without resorting to



Rajaish Bajpae – A company's staff members are its most important asset

ator's hands," he explained.

The scheme goes beyond just taking a snapshot of the ship as vetting systems tend to do. It looks at the most fundamental aspects of running a good ship plus its crew, their training and continuous improvement practices.

He then addressed the key question - will it work? Will it be practical for a busy tanker crew to put the scheme into practice? Bajpae thought that the answer to these questions may well lie in limiting its inherent KPIs to performance rather than process and compliance. He said that he based this assumption on the fact that this codifies what the large shipmanagement and shipowning companies are already doing.

Bajpae claimed that Eurasia had implemented 11 out of the 12 elements of the scheme at various levels. The missing element - No 7 management change - is being addressed.

He then turned to what he thought was the key element in running an effective and safe tanker operation - the crew. "They may not appear on the company balance sheet, but a company's staff members are its most important asset. It is the ship manager's pool of floating and shore-based people upon whose shoulders the company's fortunes rest," he asserted. (see Ship Management Feature page 5).

"What is particularly pleasing about

the TMSA system is its commitment to aspiring to a higher quality standard than that demanded by international regulation. Issues relating to establishing benchmarking standards are very relevant and more work is needed to define and compute KPIs for measuring shipowners and shipmanagers performance to a set core factors impacting on safety, environment and management practices," he said.

believed that any audit should be completed with both the auditors and auditees gaining something from the audit. He said that he particularly liked TMSA's approach to the quality of the operation ashore. "I believe that the fourth stage of the TMSA document covering shore personnel is an important one. To achieve maximum points the company needs to demonstrate that it supports its personnel

**"What is particularly pleasing about the TMSA system is its commitment to aspiring to a higher quality standard than that demanded by international regulation."**

Bajpae thought it was vital that the users of third party ship management services are able to compare and contrast the performance of the various companies involved and that anyone running or chartering a vessel can compare and contrast their companies' performance against those of the leading concerns.

"From the method of anchoring your VLCC to monitoring your selection of cadets, learning from each other is the best way for the tanker industry to move forward. Different companies do things in different ways. This doesn't just mean looking at statistics, but talking to your auditors. One of the best ways I have found of finding out about the best industry practice is during the office audits undertaken by other companies and the oil majors," Bajpae said.

He continued by saying that he

taking higher education courses and that senior shipboard personnel are rotated with office assignments," he explained.

In conclusion, Bajpae hoped that TMSA would make a difference to tanker safety providing it simplifies its KPIs in order to be taken seriously by the industry.

The papers that followed moved away from TMSA, but without losing the general theme running through the conference of quality operations.

Wallem's IT guru Patrick Slesinger extolled the virtues of the TransparentSea project, which became available on the commercial market in 2003 following collaboration on a flag state version with the Liberian International Ship and Corporate Register (LISCR) two years before.

TransparentSea is basically a condition reporting program. The program is able to

third party management.

Illustrating this point, one surprising statistic to emerge was that around 50% of Intertanko's membership consisted of companies owning or operating just five ships or less.

In general, the floor accepted the concept of TMSA with reservations. One participant did wonder whether the oil companies were pandering to the media in the wake of the *Exxon Valdez* and other major incidents.

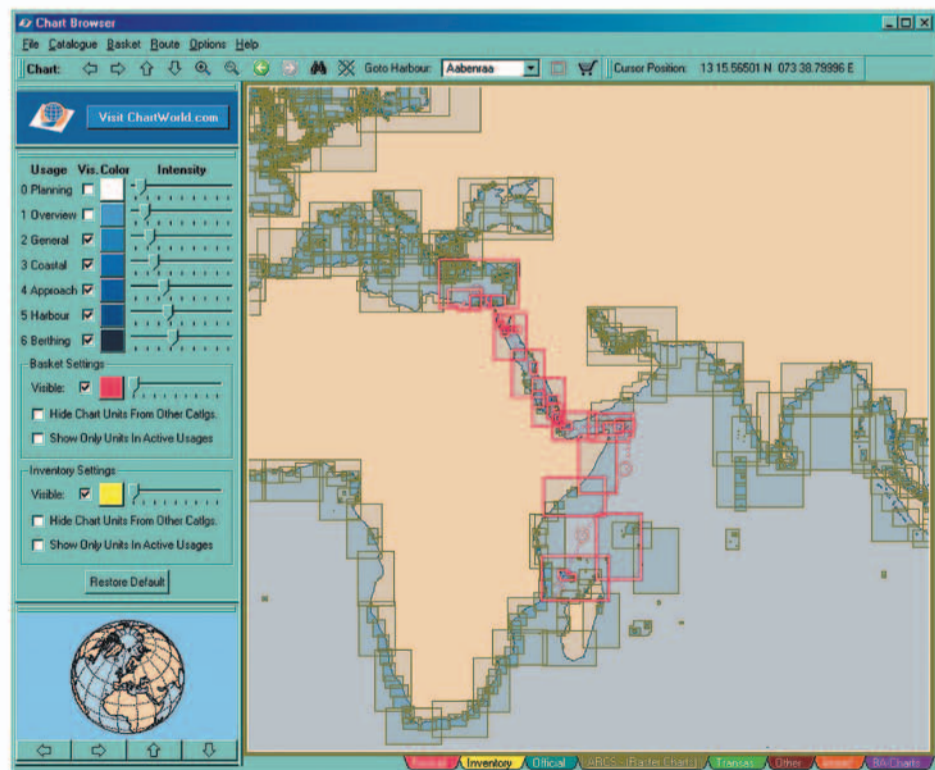
Eurasia's Rajaish Bajpae also had a few reservations and voiced concern about what he described as the 'exhaustive compliance orientation of the KPIs built into TMSA's present form'. However, he did comment that the wide adoption of this scheme would be the key to putting the tiny minority of sub-standard operators out of business.

Bajpae said he viewed the many systems and mandatory quality regimes imposed on the industry as enablers, rather than the drivers of safety. "It is not the threat of punishment, which should be driving the industry to achieve higher standards, but a genuine desire to work as a responsible industry", he said.

"TMSA could well prove to be an excellent example of this being put into practice. Allowing a tanker operator to assess how good they are and then tell their customers is fundamentally a good system as it pushes the responsibility for making sure that the ship is safe into the oper-

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An attentive audience listens to the experts

give an historical condition report or an evaluation over an extended period of time, which can be transmitted over the internet, can engender efficient report development and distribution, have a sophisticated public key infrastructure, can contain membership controls and is claimed to be tamper proof.

During March and April of this year, seven inspectors from five Paris MOU member states ran trials of the program using real inspection data. The results were discussed at the port state control conference and it was decided to keep a watching brief on TransparentSea and other multimedia based reporting systems.

### Oil spill prevention

Pollution Prevention & Control (POP&C) project co-ordinator **Nikos Mikelis** then explained the workings of this three year scheme, which started in January 2004 with 15 partners.

The aim is to develop a risk-based methodology and suitable tools enabling the quantification of the oil spill potential of different tanker designs. According to Mikelis, such methodology would also allow a rational evaluation of proposed regulatory measures. The project's total budget of Eur 2.2 mill is partly offset by an EC contribution of Eur 1.5 mill.

Mikelis then gave an overview of the interim results of an analysis of all tanker accidents and incidents between 1978 and 2003. During this period, 16,554 incidents were identified

in the whole tanker fleet. In order to reduce the size of the analysis into manageable proportions, POP&C concentrated on the 80,000-120,000 dwt size range, which had suffered 1,311 incidents.

POP&C then identified six hazards, which could cause loss of watertight integrity. These were collision, grounding, contact, structural failure, fire and explosion, which accounted for 61% of the incidents.

Fault trees were then developed and incident rate per ship year calculated on each of the six hazards reported. Analysis by hull type was also undertaken as was pollution frequency. It was interesting to note that out of the 789 ships involved in the six hazards that created pollution, 655 were of a single hull design, which would be expected given the time frame and therefore age profile of the vessels.



Nikos Mikelis: a risk-based methodology and suitable tools enabling the quantification of the oil spill potential of different tanker designs would allow a rational evaluation of proposed regulatory measures.

times taken for each audit for example are:-

- Annual safety inspection would take four to five hours
- ISPS Code between six and eight hours
- ISM Code between eight and 10 hours.

Under a harmonised audit scheme one visit encompassing all three audits would take around 10 hours to complete, Kidman claimed. He also said that the Liberian flag state was ideally placed to carry out such audits having ISM and ISPS auditors in most areas worldwide.

Bureau Veritas' **Fred Venner** then gave the audience a talk on the benefits of the Condition Assessment Scheme (CAS), an EU funded scheme aimed at developing a software tool to enable the calculation and interpretation of hull thickness measurements to be undertaken electronically.

Venner explained that the project is a partnership of 10 concerns, involving class societies, vessel designers, academic institutions, a shipyard and an oil major. He

**...under the current regime, three visits would take between 18-23 hours to accomplish.....under a harmonised audit scheme one visit encompassing all three audits would take around 10 hours to complete...**

Consultant **Bjorn Sodahl** extolled the virtues of the MAX tanker design, which he helped to develop. He then addressed the question as to how such designs can be encouraged and rewarded? He gave some possible incentive examples, such as -

- Structural margins - reduced inspection requirements if documented margins, intact coatings, etc.
- Redundancy and manoeuvrability-reduced tug requirements with certified RPS level and documented manoeuvrability.
- Navigational standards - reduced pilot requirements if documented bridge standard, procedures and training levels.

As for the threat of pollution and the public perception, in 2001 there was more than one illegal discharge in the Baltic every day. The cure, according to Sodahl, is adequate reception facilities and naming and shaming the culprits in the name of transparency.

Speaking about overcoming regulatory and compliance problems **Peter Kidman**, managing director of LISCR (UK) complained that the shipowner and his or her officers and crew is increasingly burdened by the ever greater number of regulations.

Kidman's answer was to suggest 'harmonising' the audits, thus saving time and ultimately money. He said that under the current regime, three visits would take between 18-23 hours to accomplish.

Breaking this down, he said that the

said that the project was just over a year in being but there was another two to three years work needed before an example is up and running.

Venner highlighted the need for such a tool by giving an example of a large oil tanker in a CAS/Enhanced Survey Programme (ESP) scheme. The vessel will have 20,000 thickness measurement (TM) points and just one transverse section can require 200 TM points, hence it can be a massive task.

Once developed, the software can be used for many purposes including almost instantaneous repair decisions being made during surveys as the final graphical views will immediately be available instead of the old method of paper drafts. It will also have the ability to support the CAS procedure by processing a host of TM data, provide a basis for rigorous interpretation and allow the information used as the base for assessments to be traced. The system will also allow for tanker maintenance support, possibly in combination with ROV type systems in water-filled salt water ballast tanks.

As for the technical details, Venner said that this system differs in that for each ship in service a simplified 'shoe box' type model is built. He claimed that it took only a day to build a 'shoe box' type simplified PDM, whereas it took up to three weeks to build a complete ship PDM. He explained that it was not a geometrical model, or a CAD model, but a hierarchical, topological model.



Venner highlighted the need for a condition assessment tool by giving an example

ous improvement, which assures overall quality rather than compliance in turn assures narrow alignment, he said.

The final paper was presented by two companies, which have joined together to explore fuel savings and reduced emissions through optimising vessel performance in what they call - 'a practical approach'.

BMT Seatech's Gwynne Lewis and Teekay's Bernt Karlsen explained that a co-operation agreement to investigate emissions reduction and fuel savings was approved during the third quarter of 2004 and model tests were conducted in January this year.

The objectives were to reduce emissions, reduce fuel consumption, increase the vessels' service speed and to make 2-5% savings per year. Teekay spent around \$250 mill last year on fuel alone. Therefore, a 5% saving would equate to a reduction in the fuel bill of \$12.5 mill per year.

By increasing speed and reducing fuel more timecharter days per year will be possible. Teekay estimates that with only half a knot of extra speed, the ship will be able to sail for an extra 12 miles per day, which equates to 3,000 miles per ship per year. This in turn means an extra 8.9

## Vendor software use

Ulysses Systems' Panteleimon Pantelis discussed the role of the vendor when embracing continuous improvement as opposed to compliance. Pantelis thought that vendors such as shipyards are able to offer tremendous benefit to continuous improvement. It should be no less so with software vendors, he stressed.

Software is very much involved with the higher operating standards in the shipping industry, Pantelis asserted.

As for what can be learned about the future, he said that today some of the marine industry's software requirements are ahead of those required by other industries. The latter will need to catch up in the future. For example, the marine industry requires a higher degree of ergonomics than most other industries, while by and large, multi-taskers are not the main users in other industries.

In the future, Pantelis sees more applications used by each marine manager with the ever increasing requirement for documentation. For their part, manufacturers will offer electronic monitoring and diagnosis and shipyards will take a more active role in offering a complete product.

In conclusion, Pantelis thought that dealing with innovation that the mainstream software industry has yet to deal with is an example of a continuous improvement culture. The greatest reward comes from enhancements that improve people performance in general, not just individual features. Rather like continu-



Panteleimon Pantelis: Software is very much involved with the higher operating standards in the shipping industry

timecharter days per year, which at today's rates will earn an extra \$10.5 mill per year per ship.

A total of 152 model tests were run to better understand the effects of draught and trim and to optimise the ship operation and to normalise performance data, which would deliver a trend analysis. Currently the project is at the shipboard trial stage, which will be followed by a period of analysis and then the development of KPIs. Following this, the project will be re-validated and rolled out to the Teekay fleet involving up to 160 vessels.

Training material will also be developed to support the revised process and the KPIs will be updated to be of more use ashore.

stressed.

In the short term training said Gwynne Lewis. In the longer term, we need to be more innovative. For example, the ballast

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Summing up the day's discussions, conference chairman Dimitris Lyras asked the panel to describe the most important aspects in the drive for quality shipping.

Bjorn Sodahl thought that commercial drive was essential and should be recognised as a value, a point taken up by Peter Kidman who commented that TMSA should be a commercial benefit driven innovation.

Fred Venner said there is a need to look after the people involved, especially the crew. Bernt Karlsen said risks were of utmost importance and we should instil an attitude of zero tolerance on risks as there were risk takers still out there. "The operational stance should be taken from a risk adverse point of view," Karlsen

water discharge issue is to be reviewed during the next decade. We need to look at the 'Green Tanker', which should be of new designs in both hull and machinery and have almost no emissions.

Panteleimon Pantelis thought there should be more objective measurement. There is so much happening today on board ship involving the master and chief engineer, plus the extra workload on the crew that we need to give them the tools to enable them to report more frequently and accurately.

He thought it would be interesting to look at how smaller companies coped and the different philosophies of family run concerns and third party ship management companies.



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