

Tanker operations training

Keith Forward reviews the international developments in tanker operations training

The field of human resources has been for a long time a neglected aspect of safety and quality management in shipping, despite it being a commonly stated opinion that 80 per cent of transport accidents are directly related to human error.

"It is the human element onboard a vessel that can supply the competency to avert a disaster or the incompetence or lack of knowledge to cause one," comments one major shipmanager.

The tanker sector has always had a relatively high standard of crew competency and safety, and this results in less casualties than, for instance, in dry cargo. This is despite and in many ways because of the higher hazard level.

Hong Kong shipmanagers Univan see the international maritime community as having now evolved from an approach which traditionally sought technical solutions to safety-related problems, and as focusing instead on the role of human factors in maritime safety. However, Univan still feels that the issue can be a neglected one, and that it receives a comparative lack of research and coverage.

"[If you] flick through the pages of any of the leading shipping industry magazines today you will discover a wealth of technical innovation designed to make ships more efficient and safer," says Univan.

"In the modern ship, everything from the propulsion plant, through the hull design to the navigation suite is the result of intense research and development activity. "The only exception to this rule is, ironically, the one key component on which everything else so often depends - the officers and crew."

Univan is planning to open its own new training and simulation facility in Mumbai, India, expected to commence operations by mid-2004.

This will cater to the training requirements of Univan and its clients worldwide and will be equipped with Navigation, Engine and Cargo-handling Simulators.

This has been instigated under the leadership of Captain C.A.J. Vanderperre, with the objective, Univan says, of "providing ship owners and operators with cost effective ship management with unparalleled standards of quality and safety.

"The extensive investment in property, equipment, personnel and infrastructure for the new training establishment in Mumbai is a further demonstration of this commitment."

IMTC of Mumbai

Capt. Y. Sharma, head of the International Maritime Training Centre (IMTC) in Mumbai, notes that recently the maritime training focus has spread from safety of operations to protection of the environment, as the stakes involved in a pollution incident almost equal the concern for safety of life.

While this may be seen as a lamentable development in terms of the value of human life, he says, it has to be seen in the context that a more safely run vessel, in terms of environmental protection, will still be a more safely run vessel in terms of risk to life.

The industry must welcome any move that pushes towards higher quality operations. Captain Sharma feels that it is in this context that tanker operators have started looking at training programmes for the ship's crew, as a tool to combat the human element, which is held largely responsible in any accident or incident.

"The International Maritime Training Centre at Mumbai has recognized this vital training need and designed a number of training courses to be able to fulfil it," states Capt. Sharma.

"No doubt the existing competence levels as evidenced by the Certificates of Competency can be considered adequate, however IMTC's objective is to take the seafarer's competency to a higher level."

Its approach is to integrate various aspects of learning into its courses, including elements of bookwork, and where relevant practical, interactive and simulator based training.

The Structured Shipboard Training Programme (SSTP), launched last year, is a case in point. This course allows Deck Cadets to adopt a practical-based "learn while you work" approach, and encourages the trainees to try and examine all aspects of the job.

"For example, a Cadet normally just carries out a paint job, but may or may not really learn anything in the process," Capt Sharma explains.

"Ideally, he should be made to think about all aspects of the particular task - why paint, what surface preparation is necessary, what kind of cleaning should be done [...] In a nutshell, he doesn't just blindly do the job, but is encouraged to look deeper into the factors that are necessary for the job to be successful."

Other courses include a Commercial Aspects of Ship Operations course, which helps the participants to develop an understanding of the concerns of other players in the business, helping to develop better co-operation and a teamwork approach between ship/shore.

As Capt Sharma comments, "for the senior officers on board, a good understanding of the commercial aspects of the shipping business becomes imperative for improving the quality of decisions even in day-to-day shipboard affairs."

On the technical side, there are courses designed to impart practical knowledge on areas such as Liquid Cargo and Ballast Handling (on Simulators), and the knowledge of Hydraulics, Automation and Controls, through a 'hands-on' approach. Participants are able to develop an understanding of the workings of various components and perform trouble-shooting tasks and handling of problematic situations.

On the non-technical side, protection of the environment is covered through the MARPOL Course. This seeks to create a positive attitude towards environmental protection as well as ensuring that all the rules are well understood.

There is also the Advanced ISM Code Implementation course, covering a company's Safety Management System, and aspects of risk assessment and risk management.

"IMTC thus endeavours to provide an all-round training for ship as well as shore staff, and Tanker Operators who value quality have seen the benefits and are strong proponents of such training," comments Capt. Sharma.

"Doubtless there is the other end of the scale where the tanker operator's sole intention is to be seen as providing 'some' training to his crews. However, the market demands are clearly indicative of high quality," he says.

Warsash Maritime

Warsash Maritime Centre, in Southampton, UK, has won a contract to supply crew resource management training to Shell International Trading and Shipping Company Limited (STASCO).

The course, started in January 2004, integrates Crew Resource Management theory with practical workshops, tactical decision simulations, and use of the centre's bridge and engine room simulators.

Warsash won the contract through an initial enquiry prompted after STASCO had heard about a paper presented by the Southampton Institute Maritime Research Centre at the International Team Resource Management Conference, which was held in Florida.

STASCO is the principal trading and shipping business of the Royal Dutch/Shell Group, operating a large fleet of deep-sea tankers and gas carriers as well as chartering vessels.

The course lasts four and a half days, beginning with two days of resource management training, including lectures on co-operation and teamwork, situational awareness, critical thinking and decision-making, human error, leadership and workload management, risk management and crisis management.

This knowledge is then put into practice during the rest of the course through the use of a series of simulation exercises. The course culminates in a simulator exercise in which the bridge and engine room simulators are linked together to give a total ship simulation, allowing the course participants to work together as a complete ship's team.

David Gatfield, senior lecturer at Warsash Maritime, Centre comments, "Maritime crew resource management is relevant to all personnel onboard a vessel and this training programme has been developed to ensure that both navigating officers and engineering officers are trained together as a complete shipboard team."

The course is also providing further support to Southampton Institute's Maritime Research Centre to continue its research activities. The research centre is currently undertaking research in the fields of team training and assessment, behavioural markers for assessing competence in crisis management, and the impacts on situational awareness of various factors such as communication, team interaction, fatigue and cultural issues.

Ship Analytics crisis training

MPRI Ship Analytics is a Connecticut-based company that started out making ship handling simulators about 30 years ago. Having been a market leader for some time, the company became part of the super conglomerate of L-3 Communications in January 2003.

About 8 years ago, the company embarked on a new product line after someone noticed that people training in the Oil Tanker simulators would often crash and create oil spills, and that it would make sense to train people how to deal with oil spills in a virtual environment.

The company then set about developing the CRISIS product, a tool used for teams training and responding to unforeseen events. This was first designed for oil spills, but now it has been adapted for use with any type of toxic release, natural disaster, or act of terrorism.

The key benefit of the system is that users can train on the same programs and computers they will actually use when responding to a real event. While training all the input is simulated, and when an actual event occurs the simulated feeds are replaced by the live data.

MPRI Ship Analytics still makes and sell Ship Handling simulators along with Liquid Cargo Handling Simulators, Engine Room Simulators, and Maritime Crane Simulators. In the past year it has completed the building of 6 training schools in Indonesia equipped with simulators for training to IMO standards.

Seagull environmental management

Seagull has introduced an introductory computer-based training (CBT) course for ISO 14001.

The module (CBT #122) will aid companies in the training and education of crew and staff about the importance of, requirements and steps to be taken for environmental protection.

The new course is in response to consultation with its customers who are increasingly under pressure to be seen to be taking a more active role in environmental protection and to comply with the ISO standard. It covers topics such as the earth and the environment, environmental threats and protection of the environment.

Seagull comments that, "increased environmental focus has created new industry-specific requirements and policies relating to an objective understanding of environmental aspects, environmental management systems and internal audits." This CBT course is the first of several new training topics to be released shortly as part of the Seagull Onboard Library, currently containing over 85 work-related training courses. Upcoming modules include lifeboat release mechanisms, safe cargo handling (FRAMO deepwell pumps), DNV container express, and rigging and slinging.

ChartWorld and ISSUS

ChartWorld, the electronic chart distribution specialist based in Hamburg, is teaming up with ISSUS Hamburg, to provide electronic chart services and training in how to use ECDIS (electronic chart display) equipment effectively. Combined orders placed before the end of May 2004 will be given a 10% discount on both training and charts. Chart World notes that while in the last few years most shipping companies have opted for ECDIS systems for their newbuilds, they often do not use these systems to their full capacity.

Unless the ECDIS is using all official charts, and a backup ECDIS system is available, the system does not comply with the regulations for an ECDIS - and is instead classed as an ECS, or electronic chart system, which means that shipping companies are not allowed to depend on it for navigation, and still have to use paper charts, with all the connected safety risks, hassle and update tedium.

"The benefits of ECDIS are indisputable: no need for manual up-dating, real-time position display, safety monitoring functions (anti-grounding), no external light on the bridge," the company says.

"However more efficient utilization of ECDIS systems requires two essentials - first-rate electronic navigational charts and staff training by qualified coaches,"

It also notes that it is difficult to obtain advice and training at a high level about all aspects of the subject. The agreement is a move to promote the safe use of ECDIS through a combined resource that includes a training programme that enables mariners to effectively use the equipment and a source of high quality official charts, advice and information.

"The cooperation of ISSUS and ChartWorld is a joint effort to understand and answer all questions that may arise from dealing with ECDIS navigation," ChartWorld says.

"Our objective is to train your mariners without a gap between theory and reality and to provide all capabilities scoping potential, functions and limits of ECDIS."

The course covers all kinds of charts: vector as well as raster charts and the current coverage of official ENCs.

RELEVANT WEBSITES

Univan www.univan.com.hk

IMTC www.imtcmumbai.org

Ship Analytics www.shipanalytics.com

Seagull www.seagull.no

ChartWorld www.chartworld.com