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It's all about Teamwork...

What are the human element knowledge and skills required to ensure the safe conduct of the ship, the safe and timely delivery of its cargo and, the health, safety and wellbeing of the crew? A look at the Centrespread feature in this Issue will reveal that they are many and varied. It is not just about having an understanding of and implementing the various rules and regulations, and being aware of human capabilities and the influence of the designed environment – although these are all important – it is also about good leadership, effective two-way communication, teamwork and empowerment from the top down, both ashore and afloat.

It is encouraging to note the 2010 Manila amendments to the STCW Code which mandates for training in bridge and engine room resource management and includes the application and use of leadership, managerial and team working skills for deck and engineering officers. The amendments recognise the need for effective communication onboard and ashore; and the importance of assertiveness and leadership, including motivation.

An analogy for the safe and efficient operation of a ship is that of the orchestra: The ultimate success of any orchestra lies with its musicians; each is highly trained and is part of a smaller team (strings, brass, woodwinds, percussion etc) within the orchestra. As a group they must be able to follow the score to the note. If one member of the orchestra makes a mistake, it will be evident not only to the rest of the orchestra but also to the audience.

The conductor needs to understand the musical score as it is written and then lead a large and diverse group of musicians playing different instruments to achieve a harmonious and sensitive delivery of the music. He has to deal with the differing strengths, needs, sensitivities and communication styles of the members of his orchestra. He is, of course, supported and directed by a management team overseen by the Board of Directors.

In the ship context, the master is the conductor; the deck, engineer and hotel departments represent the strings, the brass and the percussionists. The operations staff are, of course also a part of this team, whose ultimate aim is to ensure the safe conduct of the ship and the safe and timely arrival of the cargo.

Responsibilities come before skills. Each of the **Alert!** bulletins in this series is about defining the responsibilities of a particular stakeholder group with respect to addressing the Human Element. From these we intend to develop descriptions of the knowledge and skills necessary to discharge those responsibilities.

But, we would not be 'user-centred' if we did this on our own. Contributions from those who have already benefited from the right training and experience will be essential to ensure that we get it right. What we offer in the centrespreads will serve as a 'first draft', which we will ultimately develop through the **Alert!** website, with a view to providing a comprehensive human element skills framework for all the various stakeholders by the end of this series of bulletins. Feedback, therefore, is essential – and very welcome.

Through the **Alert!** bulletins and the website, we seek to represent the views of all sectors of the maritime industry on human element issues. Contributions for the Bulletin, letters to the editor and articles and papers for the website database are always welcome.

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Crew - the operator's greatest challenge

Dr Michael B Kennedy, *Hellespont Steamship Corporation*

'Crew' - Sometimes it is an explanation and sometimes it is almost a swear word.

The operator's greatest challenge is to achieve the most possible with those persons who are the 'face' of the ship. There are other human element challenges too: Keeping the charterer satisfied, negotiating with and appointing agents, buying or coordinating bunkers - these are some of the operator's jobs. Not surprisingly, skills in human relations are similar in all these challenges.

So what are the human skills needed? The fundamental skill is the ability to put oneself in the place of the other party. The specifics of each task must be explained in detail so that the recipient will be able to fulfil what is needed without any ambiguity. Communications must invite the recipient to respond with comment, clarification or even rejection and the reasons why.

There is a need for flexibility to change or replace the task so as to achieve the overall objective. Handling stress and being able to work many potential solutions at the same time is needed. The operator needs to be attuned to nuances but never be afraid to politely ask for clarification and advice.

Shipwise it is important to get the top officers 'onboard'. With a good rapport one can always find a way to achieve the goal of any task with either the ship's present resources or with those that can be brought in. If you, as the operator, believe that something is wrong onboard just remember that you are many miles away and that the ship's crew are there to solve the problem. Its takes time to mobilize replacements or to send a port captain or superintendent.

Most problems - people or machines - can only be solved with the help of the crew. Often, by just specifying in detail the forthcoming operations or talking through a task ahead of time may be enough.

Role playing or simulations can give insight. One must know the basic ship organization and duties and roles in any given task. Knowing when they will be tired and when they will have conflicting objectives can help in both scheduling and in framing a request.

Everyone is different. Some senior officers can manage with weak subordinates and inexperienced ABs or Oilers. Some cannot, and one must plan their rotation so that they either have strong onboard support or that there is appropriate shore support.

In summary:

(**1**) Make it automatic that you, the operator, can put yourself in the other man's shoes. Do that before you make your request. Role-play the situation at least in your mind before you send the email.

(**2**) Focus on the crew. Others are important but the crew is going to solve the problem.

(**3**) Know the crew organization and specific strengths and weaknesses of the specific crew. Be attuned to whether they are tired or under stress. Schedule crew rotations and onshore support individually.

(**4**) Be more than clear in your request either to do a job or to give information. And, always make it possible for the recipient to report the true situation, even if it means saying your request is 'bad' or not possible.

A copy of Michael Kennedy's paper ***Life-time structural integrity and tanker operations*** *can be downloaded from: www.he-alert.org/filemanager/root/site_assets/standalone_article_pdfs_0905-/he00955.pdf*

What makes the Ultimate Ship Manager?

Kuba Szymanski, *Secretary General, InterManager*

What is a ship manager? Is he/she an accountant who worked in a shipping company for many years and got promoted to the ultimate position? Or maybe a Naval Architect straight from University? Or must it be a junior officer who was fed up with the sea and decided to transfer ashore. Well I am afraid quite a number of us would actually subscribe to the above definitions purely because of our own bitter experiences.

Let us, through this article examine what is really required from the Ultimate Ship Manager and try to set very high standards.

Good ship management companies, both 3rd party managers and in-house owners or managers, set high standards for their Ship Managers, also known as Superintendents (Marine and Technical) or Ship Directors. So what are the virtues and skills that a person measuring up to these high standards should have?

Professional Integrity

We definitely want someone who is consistent in his actions, values, methods, measures, principles, expectations and outcomes. In western ethics, integrity is regarded as the quality of having an intuitive sense of honesty and truthfulness in regard to the motivations for one's actions. Integrity can be regarded as the opposite of hypocrisy. I cannot see a 'yes man' fitting this picture!

Good people skills

We want our Ship Managers to manage. Managing ships means managing the people working on board and also those ashore. This role requires negotiation skills, but also an awareness of cultural differences. Surprisingly many of we superintendents and managers are lacking this skill. This is due to the promotion process involved. Who is it gets promoted to the 'Super's' job? Is it the best Master and best Chief Engineer? Well first of all what is the definition of "Best?" One who has never run aground or pulls the main engine unit in six hours? Or maybe it is someone who has had no off hires? Very few companies concentrate on someone who knows how to appraise, motivate and lead.

Being one of the team

It would be really great if the Manager had a lot of empathy for his people. This is best acquired by being one of the Team. Therefore, experience at sea is usually very difficult to substitute. I, for one, can immediately spot someone who has been in the 'hot seat' at sea from those who only theoretically know what it means to take decisions – to face the music for their own acts. This is what, in my opinion, makes a very good Manager. It teaches respect and provides the empathy needed in difficult situations.

Managerial Skills

A plethora of other managerial skills make life easier, such as good time management, project management, media awareness, computer skills, meeting management and negotiation skills.

I am very much aware that it is difficult to achieve all the above-mentioned standards, but I believe we should aim high and always try to improve our standing!

Grappling with leadership skills

Professor Mike Barnett, *Warsash Maritime Academy, Southampton Solent University*

Are leaders born or can they be made? What are the characteristics of a good leader? What aspects of leadership style does Horatio Nelson share with Nelson Mandela? Are leadership and managerial skills the same? Can you become a good leader by reading a book about it?

These are the sort of questions which students and trainers will be grappling with as they respond to the new revisions to the STCW Code as agreed in Manila in June 2010. Evidence of a lack of leadership in some recent casualties has caused concern within the industry, and the revisions are intended to provide a framework for the development of the set of skills which make up leadership.

Up until now, the STCW Code has tended to focus on technical skills, but the Manila Amendments, as they are known, will introduce competence requirements for leadership and managerial skills at both the operational and management levels, ie this is for both junior and senior officers. Competence may be assessed in a number of ways, including approved training, in-service experience or simulator training. Whichever mode of assessment is used, the criteria for evaluating these competences are the same and are included in the relevant tables within Part A of the Code, for example:

- Communication is clearly and unambiguously ***given and received***
- Effective leadership behaviours are ***demonstrated***
- Decisions are the ***most effective*** for the situation.

So what will seafarers need to learn, and how will they learn? At the operational level, junior officers need to understand the principles of leadership and how different styles of leadership can be effective in different situations. They also need to understand the principles of good communication. Perhaps most importantly at this level, junior officers need to develop practical strategies for assertiveness and good team working. There have been casualties in the past where junior officers, for one reason or another, have been reluctant to point out impending dangers to their seniors. There are practical techniques which officers can learn to be assertive without being insubordinate.

Senior officers will need to actually demonstrate effective leadership behaviours. There are computer-based tests available which will assess leadership potential by placing individuals in a set of scenarios with a number of different leadership options. Participants can analyse and select the most appropriate solutions. Of course, such tests only reveal what an individual thinks they might do – to have some confidence that a student is displaying real behaviour, other forms of assessment might be needed. This can be done through role-playing or other forms of simulation, as well as through real experiences on board. At this level, leaders will need to be able to control their own emotions effectively, but also manage others, sometimes in novel and dangerous situations.

Leadership is a complex mix of personality and skill, but there is something we can all learn to become more effective in our interactions with other personnel. The new revisions give seafarers an opportunity to develop practical strategies and techniques to achieve this goal.

Leadership qualities of the master

Captain Kevin G. Coulombe *Master, Maersk Line, Ltd, USA*

When Captain 'M' got upset, which he did with regularity, he would yell and jump up-and-down, and it appeared as though he were levitating off the deck. On one occasion, as the captain hovered above the port bridge wing gesticulating and yelling, the pilot abandoned him, came into the bridge, studied the bridge instruments, looked at my bell book, looked forward out the bridge port hole and asked me quietly, "Who is that man?"

A US Navy leadership manual states: 'Leadership is based on personal example, good management practices and moral responsibility.' Captain 'M' was an able ship master but a miserable example of a leader. His leadership model depended on fear, threats and invective. Lacking leadership skills, self confidence in himself or his subordinates he relied on his position and outrageous behavior to coerce results.

The master who takes command must balance the needs of ship operation and crew management and do so in a sober, professional and enjoyable manner. Not only does the ship operation depend on it but the maturation of officers and crew depend on it too. There will always be managerial problems both operational and personnel but good management skills should identify or minimize the impacts.

Prior to the introduction of the IMO safety management system, the master had what few tools the company operation manual provided to effectively manage his ship or crew. Some masters with proper leadership training and experience were able to manage adroitly. But without rules to be guided by and without the confidence of the managing company, many masters resorted to abuse and fear to manage their ship. The consequences of this kind of management were always regrettable. The fallout was usually reflected in the log book and the claims department. Today poor management will also reflect in KPI scores and draw close scrutiny by shore side management. The SMS should provide the master with all the tools required to manage the ship and crew effectively, collegially and responsibly.

I was fortunate to sail for Masters of exceptional character and ability. They adroitly managed ship and crew and did so with great relish. Not only were they expert seaman and able managers they were caring men who demonstrated interest and concern in the welfare of the ship, crew and the environment. Their moral leadership was infectious and was appreciated and reflected by the crew.

I have found fine leadership examples in my readings: Captain Roald Amundsen, Master of the 1910 MS Fram polar expedition, took a team of men to the South Pole and back. Captain Ian North, Master, MV *Atlantic Conveyor*, took his crew to the South Atlantic during the 1982 Falklands conflict, and was the last man off and lost when his ship was struck by anti-ship missiles. And Captain D. Michael Abrashoff, USN, explored and practiced ship and crew management techniques and rewarded him with the 'best damn ship in the Navy'.

All have been prime examples of exceptional leadership and are great role models that I appreciate, emulate and communicate as a master.

Human element knowledge & skills framework – o

Ship Operators/Master/Senior Officers

Be fully conversant with and fully understand the need to implement:

- pertinent IMO, ILO, WHO and other regional instruments relevant to maritime safety and protection of the marine environment
- international codes, guidelines and standards in the context of SOLAS 1974 (as amended), STCW 1978 (as amended), the International Regulations for Preventing Collisions at Sea, 1972 (as amended), IHR 2005, and MARPOL 74/78 (as amended)
- the provisions of the ILO Maritime Labour convention 2006 (MLC, 2006)
- other regional instruments relevant to maritime safety and protection of the marine environment
- Company regulations relevant to the safe conduct of the ship, the safe and timely delivery of its cargo and the health, safety and wellbeing of the crew
- measures to prevent/suppress terrorism against ships and to improve security aboard and ashore, in accordance with the ISPS Code
- IMO Guidelines for Engine-Room Layout, Design and Arrangement (MSC/Circ.834), as appropriate

Ship Operators

Fully understand the need to:

- promote and manage human element activities to reflect the needs of safe and effective operation, and provide the necessary resources
- facilitate information feedback, exchange and other communication about human element issues, including the provision of human element data in standard formats
- establish a focus on human element issues (including usability, health and safety) in those aspects of shipping operations that deal with the business strategy (current and future), markets, options for future operations and planning their concept
- effectively involve and consult crew and support staff on each significant aspect of the ship and its systems in order to improve its usability, health and safety, or performance
- include human element issues in decision making, trade-off and risk management studies, in order to mitigate the risk to safe and effective ship and company operation
- take account of the human element in the acquisition, supply and operation of systems and the management of services
- ensure that human element issues arising from the operation, support and maintenance of the ship and its systems are given sufficient attention
- ensure that the human element is given sufficient attention throughout the introduction and validation of a new operation
- ensure that modifications to the ship and its equipment take account of human element issues identified in service, and that the human element is managed during major work originating from the company office
- achieve safe and effective operation in the most timely and cost-effective manner by provision of the correct number of competent crew and support staff
- operate an HR strategy based on the company business objectives that includes a mechanism for recording and implementing lessons learnt
- identify the changes to existing staffing and personnel resources and skill demands imposed by planned operations and predict staff availability over planned future developments
- deliver individual and collective training solutions reconciled to the requirements of safe and effective ship operations
- provide data on ship operations in order to improve staffing provision and deployment, ship and system design, and operational deployment
- check usability of a system, by selecting and applying appropriate practices that use human element data
- establish, clarify and communicate the characteristics of the users, their tasks and the technical, organisational and physical environment in a system will operate
- establish, clarify and communicate the requirements of the users of a system
- ensure that the design options for any product system of work take account of the human element
- ensure that feedback on the evaluation of the aspects of a system related to its use or users is collected and reported

Recognise:

- the importance of safety at sea, prevention of human injury or loss of life, and avoidance of damage to the environment, in particular to the marine environment and to property, in accordance with the requirements of the ISM Code
- the Master's responsibility with regard to: implementing the safety and environmental-protection policy of the Company; motivating the crew in the observation of that policy; issuing appropriate orders and instructions in a clear and simple manner; verifying that specified requirements are observed; and reviewing the safety management system and reporting its deficiencies to the shore-based management
- that the master has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the Company's assistance as may be necessary

Master

Recognise:

- the importance of properly addressing the human element for safety of life at sea, safety of navigation and protection of the marine environment and property
- the importance of safety at sea, prevention of human injury or loss of life, and avoidance of damage to the environment, in particular to the marine environment and to property, in accordance with the requirements of the ISM Code
- his/her responsibilities with regard to implementing the SMS; motivating the crew in the observation of that policy; issuing appropriate orders and instructions in a clear and simple manner; verifying that specified requirements are observed; and reviewing the safety management system and reporting its deficiencies to shore-based management
- that he/she has the overriding authority and the responsibility to make decisions with respect to safety and pollution prevention and to request the Company's assistance as may be necessary

Ensure that:

- his/her ship is manned with qualified, certificated and medically fit seafarers in accordance with national and international requirements
- new crew members are given proper familiarization with their duties
- instructions, which are essential to be provided prior to sailing are identified, documented and given
- appropriate training is provided for all crew members
- relevant information is provided in (a) language(s) understood by crew members
- crew members are able to communicate effectively
- plans and instructions for key shipboard operations are available; tasks involved are defined and assigned to qualified crew members
- procedures are in place to identify, describe and respond to potential emergency shipboard situations
- programmes are established for drills and exercises to prepare for emergency actions
- the ship can respond at any time to hazards, accidents and emergency situations
- non-conformities, accidents and hazardous situations are investigated and reported to the Company; timely corrective action is taken
- all documents and data relevant to the SMS are properly controlled
- valid documents are available on board; changes to documents are reviewed and approved by authorized personnel; obsolete documents are promptly removed

- the SMM is kept in a form that the Company considers most effective; all documentation relevant to that ship is carried on board
- the results of audits and reviews are brought to the attention of crew members; timely corrective action is taken on deficiencies
- crew are effectively involved and consulted on each significant aspect of the ship and its systems so as to improve its usability, health and safety, or performance
- communication between the crew and other stakeholders is effective
- the crew are aware of human element issues, are involved in the feedback process and are notified of changes made to design, operation, training or manning as a result of their input
- the crew competencies required to operate and support the ship and its systems are identified and continuously reviewed over time
- ship maintenance and maintainability requirements for support are met by the ship and its systems
- the overall performance of the ships and their systems is consistent with required capability
- he/she works together with operations staff to achieve the objectives of the organisation

Senior officers

Ensure that:

- all crew members are fully conversant with the Company's SMS and it is properly implemented
- all crew members are aware of the identify and role of the DPA
- new crew members are familiar with their duties
- all crew members have an adequate understanding of relevant rules, regulations, codes and guidelines
- non-conformities, accidents and hazardous situations are reported in accordance with the SMS
- the ship is maintained in conformity with the provisions of relevant rules and regulations and Company instructions
- the results of audits and reviews are brought to the attention of crew members; timely corrective action is taken on deficiencies
- crew members are involved and consulted on each significant aspect of the ship and its systems to improve usability, health and safety or performance; crew feedback is widespread and effective
- crew members are aware of human element issues, and of the changes made as a result of their input

Bridge Team

Be fully conversant with and fully understand the need to implement:

- the provisions of the International Regulations for Preventing Collisions at Sea, 1972 (as amended)
- the appropriate provisions of MARPOL 74/78 (as amended)
- the principles of Bridge Resource Management, including the involvement of the pilot when appropriate
- procedures for responding to system failures and emergency situations

Engineering Team

Be fully conversant with and fully understand the need to implement:

- the appropriate provisions of MARPOL 74/78 (as amended)
- the principles of Engineroom Resource Management
- procedures for responding to system failures and emergency situations
- IMO Guidelines for Engine-Room Layout, Design and Arrangement (MSC/Circ.834), as appropriate

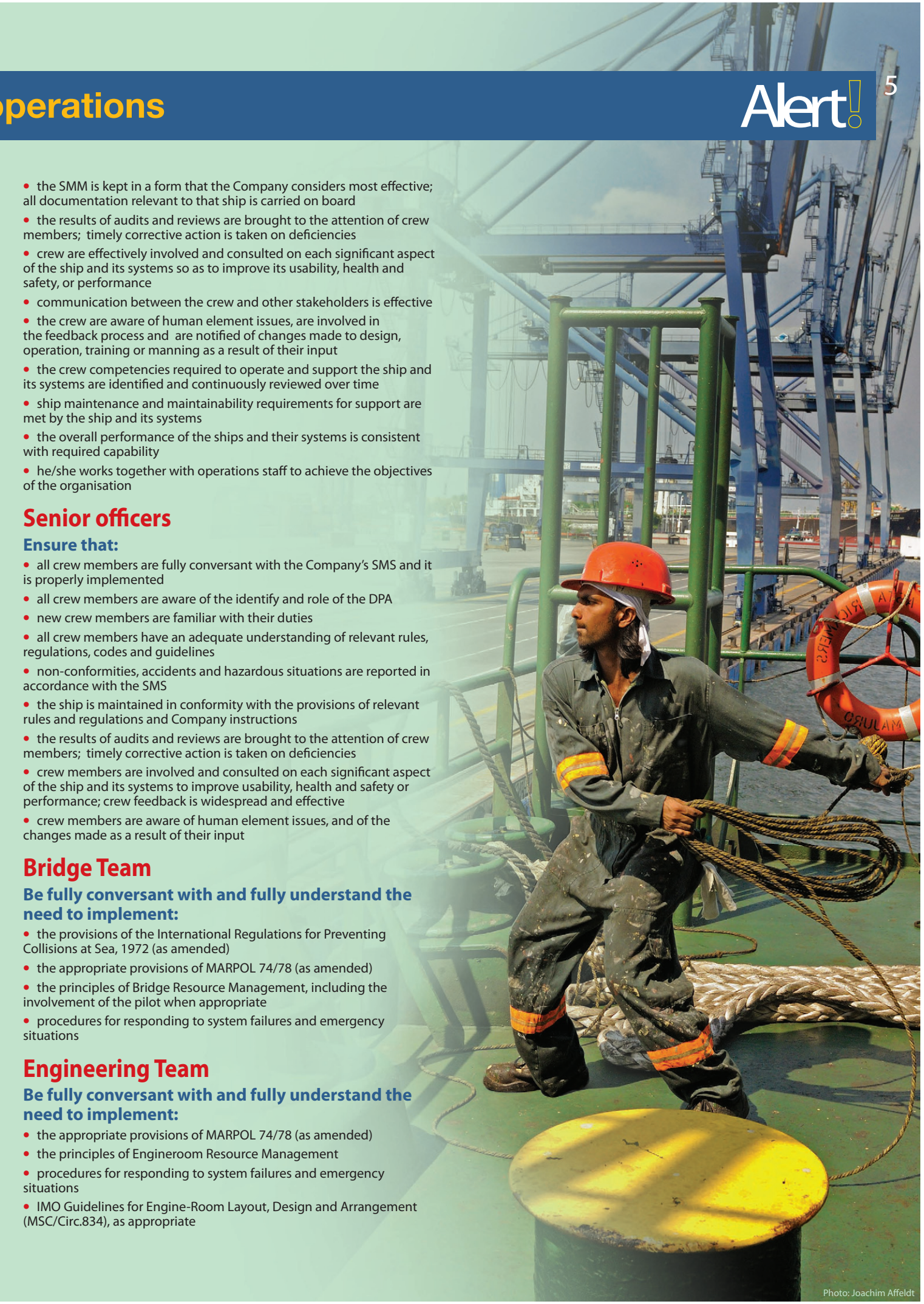

Photo: Joachim Affeldt

Crew Resource Management - Learning from Aviation

Adam Cowburn, *Head of MCRM, Oxford Aviation Academy*

Since the introduction of Crew Resource Management (CRM) into shipping in the early nineties there have been many developments, and in light of the recent Manilla STCW Conference it is perhaps relevant to review where we stand today and what has been positive and what has been less positive.

Possibly the greatest success has been to get the concepts of human factors and human error onto the safety agenda in shipping and the recognition that a majority of incidents have a 'human error' component. Most officers today have attended some form of human factors training and very great success has been achieved in terms of 'personal safety' and such things as behavioural based safety have without doubt reduced personal injuries directly.

The record in regard to CRM has however been less positive. There are a number of factors for this, some which appear to be obvious - for example inconsistent delivery by some providers. However some factors are less apparent; these include:

- The initial transition from aviation to shipping did not sufficiently take into account the differences between the domains in particular;
- The social environment on board, the fact that people are together for extended periods and that people live where they work certainly changes the dynamics of communication particularly in regard to speaking up and complacency/assumptions.
- That shipping did not have an approach to procedures and procedure training as exists in aviation was not sufficiently taken into account and led to perhaps too little focus on how to do certain things and perhaps too much on why (though that should not be underestimated).
- That the safety culture drivers were different in shipping and aviation.

Additionally it is perhaps worth mentioning that the effects of regulation - that CRM was and is mandatory in aviation was significantly underestimated. The mandatory nature of CRM in aviation has led to a 'safety culture' where desirable CRM behaviours are second nature.

But the underlying assumptions and safety benefits that CRM has brought to aviation are applicable to shipping if packaged in a manner which takes into account the points mentioned earlier. There is no doubt that better communication, leadership, decision making and speaking up will lead to increased safety - but applied in a shipping context.

So, what we need to do is cherry pick the best of aviation - the CRM tools, procedural training, standardisation in assessment (both in training and reality) and quality standards. And not least that aviation CRM is constantly being updated and evolving.

However, we should never forget that shipping is not aviation.

What Makes a Good Human Element Investigator?

Leo Donati, *Manager Human Factors and Macro Analysis, Transportation Safety Board of Canada*

Next week, the TSB is delivering its Human Element course to investigators and industry representatives from around the globe. As my staff and I prepared for this endeavour, I took a few moments to reflect on what the key skills and abilities of a Human Element (HE) Investigator are. Of all the skills and abilities that come to mind, the key to a good HE Investigator is the ability to see an occurrence holistically and from the original perspective of the people involved.

The Transportation Safety Board of Canada (TSB) is one of the few Accident Investigation Boards that is fortunate enough to have dedicated HE investigators on staff. The academic qualifications of this group of individuals are quite varied. It ranges from specialization in the areas of anthropology, psychology, physical ergonomics, sleep physiology, organizational psychology, task analysis and training design, and cognitive engineering. Although these academic qualifications allow these investigators to carry out very detailed HE analyses, on their own these credentials do not make a good HE investigator.

One of the major challenges when investigating an occurrence, and in particular the HE, is that after the fact, you are viewing the world in light of information that was not necessarily available to the participants as the situation unfolded. You see the cues that should have been recognized, the opportunities that were missed, and the ultimate outcome of their actions. As a result of this hindsight bias affects our view of an occurrence and more full explanations of people's behaviour may be overlooked. The HE Investigator needs to be able to distance himself from the knowledge that is known after the occurrence and visualize the unfolding situation from the perspective of the individuals involved while the event was transpiring. The question that must be asked repeatedly is "why did this make sense to those involved at that time". Perhaps the most critical skill for a HE investigator then, is the ability to see the world from the perspective of the other.

Further, most HE professionals have been trained in a reductionist tradition as there are few university programs that offer a holistic approach to the HE. Break the system up into its component parts, examine each one in great detail, and you will be able to understand the system. This is fine for academic research; however, in the case of HE investigation, it is essential to examine human behaviour and actions within the context of the broader system, not in isolation. This is the only way to understand the perspective of the other.

How does a holistic approach that includes understanding an accident or incident from the perspective of those directly involved apply to the marine industry, and the seafarer in particular? As our industry moves further along the path of Safety Management Systems, one area that is gaining the spotlight is the need for employees from all levels from the seafarer through to management to report near misses and risks within their systems.

In order to be able to assess these reports in a manner that can lead to positive workplace and organizational changes, rather than assigning blame, we need to ensure that this holistic approach is applied. Because the answer to what happened, and the key to prevention, can only be determined when the original circumstances and the perspective of those involved are fully appreciated.

Nobody is perfect, but a Team can be

The Team *- Pacific Basin Shipping Limited, Hong Kong*

There is an old Chinese saying: *Nobody is perfect, but a Team can be*. The essential part of a successful and safe operation is to ensure perfect synergy between shore-based management and shipboard management by making every employee take ownership of the success of the Company. Shipping is a people business, and good seafarers who are recognized by the Company for its success, are integral to the safe ship operation and the business results.

The shore-based Team must provide the best shore-based support and guidance for doing the task on board most efficiently, rather than making daily decisions for the seafarers for the operation of the vessel. Masters and Chief Engineers, as the Senior Managers onboard, must be empowered to make decisions and manage the vessel without requiring approval from the shore-based Team and without needing to comply with a complicated communication protocol and paperwork. With the advent of e-mail communications, it is easy for seafarers to simply inform the Company and await advice and instructions, and for the Manager to seek information on every little aspect prior to action on board; this distracts the decision-making and management on board and is counter-productive to emergency preparedness, professionalism and self respect. If we trust the seafarers with a multi-million dollar investment and its cargo to make the voyage, we must trust in their competence and ability to manage it effectively from the ship. The shore-based Team should take a supporting role while the shipboard Team takes the lead role in the management of the ship.

This requires very strict selection criteria when hiring senior officers, which precludes all but the best candidates. Once selected, they need to be integrated into the Company carefully with as much interaction with the shore-based Team and an environment to interact freely without any power distance. The best candidates are those officers who have served in the Company as Junior Officers and are well-versed with the Company policies and culture. Good retention and a healthy progression upwards through the ranks within the Company are crucial. This is achieved by recognition of the contribution made by our seafarers: an expanding and long-term Cadetship program even in times of recession, a wage structure which rewards longevity, structured training and promotion and long service achievement awards. What else is better to promote this system and to develop a career path, than to promote a Seafarer to Shore-based Manager as something to be seen as attainable by all? This is done regularly within Pacific Basin, where many of the key positions in Technical, Crewing and Commercial Operations are held by ex-Pacific Basin seafarers.

A ship, like every other piece of machinery, may develop defects. Wear and tear in these days of 24 hour cargo operations and rapid port rotations takes its toll. Things go wrong, near misses or accidents happen. There will always be a small percentage of seafarers who may be complacent with experience, or ignorant with lack of experience, both of which are human failures and could result in hazardous situations and undesirable events. While every near miss, defect and accident must be investigated, it has to be done without individual blame; a '*No Blame* Culture' is fundamental to successful ship operations, and for encouraging near miss and defect reporting. We promote the *'22 Crew 22 Owners'* principle; this takes the mandatory reporting of accidents and incidents under the ISM Code to a much higher level, and gives each seafarer a sense of ownership and belonging to the Company.

With the system of government controlled manning agencies supplying seafarers in some countries, the option of directly hiring seafarers as permanent employees of the Company in all the crew resource pools is not possible. However, the sense of belonging to the Company can be nurtured by: family welfare, holding frequent shore based training seminars to which families are invited, family medical schemes and strong support for the seafarer's family when a seafarer is away at sea; good food, hygiene and fair living conditions on board monitored closely by the owner, well designed living quarters and policies on fatigue management, prompt payment of wages and social benefits, respect and fair treatment of seafarers; and continuous career development and training, Company newsletters, communication facilities for phone calls and emails, regional language news bulletins by email, crew entertainment facilities on board and adequate funds to buy music, movies, gymnasium equipments etc.

Safe crew run safe ships is a slogan used regularly in the industry. We train our seafarers to the highest standards, far above those required by STCW. Rather than burdening the busy seafarer with information overload, we compile relevant information for the ship type and trade and summarise key information for our seafarers to assist them in efficient management on board and learning from other people's mistakes. Many accidents and incidents happen to the best trained crews, due to lack of foresight or pro-active planning throughout the Team. It takes commitment for the Company to support the seafarers by letting the ship incur loss of earnings for 6-48 hours, for familiarisation after a crew change or letting the seafarer take rest at a safe anchorage after a busy period of port operations or after an incident with investigations by various parties.

Incidents, near misses or industry events must be analyzed and prompt pro-active action must be taken throughout the fleet. Pacific Basin has voluntarily implemented ISO 9001, ISO 14001 and OHSAS 18001 on board, rather than just complying with the ISM Code. Informal paperless risk assessment by means of *3W (What can go wrong? What factors can cause it to go wrong? What should be done to prevent it going wrong?)* is carried out prior to each and every task on board to prevent unplanned results and desirable events.

Good and open communications plus strong round the clock support from the shore-based Team must be available without power distance. Senior Managers onboard spend time in our head office prior to joining their ships and attend our management meetings where all issues on the Company's fleet are discussed. Most of our shore-based Team who do not have a seafaring background, take every opportunity to visit ships in port or make a short coastal trip to understand the sea life and to improve the synergy between shore and ship. Extensive feedback is taken prior to implementing new systems and our focus is to trim and simplify the existing systems rather than making the SMS heavy with reams of paper checklists, taking out innovation and professionalism from the seafarers.

The shortest route between the load and discharge ports is not always the best one for the crew or vessel. Severe weather conditions, dense traffic, piracy are all matters for the Team to evaluate before making a risk based decision to go around, or wait several days to join a naval escort convoy for example. In this respect the concern for the seafarers in the Team, their safe workplace and their lives - the 'Human Element' - must be considered together with operational efficiency.

In our Pacific Basin Team, we believe our success as a Shipping Company comes primarily from our well run ships, by our dedicated seafarers on board.

This is an edited version of a longer article which is downloadable from: www.he-alert.org/filemanager/root/site_assets/standalone_article_pdfs_0905-/he00970.pdf

Accident Investigation Reports

Drifting and subsequent grounding of products tanker

This investigation into the grounding of a 4,393grt products tanker on a delivery voyage reveals a number of contributory causes, which were not directly connected with the grounding, but which nevertheless expose some important human element issues, not least the need for good leadership and direction from the top down, teamwork and effective communication.

In September 2007, the master, two engineers, an electrician and a cook joined the ship in China to prepare it for delivery to its new owner in Nigeria.

The chief engineer provided the shipbroker with a list of requirements, which included an English translation of the ship's main engine operations and maintenance manual and several other equipment manuals, wiring and piping diagrams. The chief engineer urged the owner to conduct a sea trial on the ship and eventually the shipbroker, accompanied by the master, chief engineer and owner ran the main engine while the ship remained at anchor. The owner then left the ship and no further trials were undertaken.

The ship's drawings, manuals and documentation were not in English and, as such, were not of much use to the crew. Many of the critical systems were not operational and had not been tested. The ship did not have a complete inventory of spare parts and special tools. Despite the chief engineer highlighting these issues to the ship's owner, little action was taken to address them.

On 21 December, the ship sailed up the Chinese coast to another port, assisted by the shipbroker and his staff. None of the ship's machinery was tested before the 200 mile voyage, apart from the engine trial on 9 December; the main engine was run on marine diesel oil (MDO), not intermediate fuel oil (IFO). During the voyage, the emergency switchboard, which had not been secured to the deck, fell over.

Thirteen days into the crossing of the Indian Ocean, the main engine began operating poorly after it was changed over from MDO to IFO because the fuel had not been effectively heated or purified. There was insufficient MDO on board the ship for the whole voyage and so the main engine needed to run on IFO for most of the voyage.

The ship was making made little progress towards its destination and the master decided to drift while waiting for the ship's owner to organise the delivery of clean fuel. However, the owner did not arrange clean bunkers or provide any other assistance.

The ship was rolling heavily, the air conditioning was not working and the crew's consumption of fresh water, stocks of which were already at a critical level, had increased in the hot and humid tropical conditions. The crew were becoming increasingly angry and frustrated with their lack of progress on the voyage.

After drifting 21 days, the ship made its way to the Cocos (Keeling) Islands and anchored; deteriorating weather caused the ship to drag its anchor and, despite attempts by the master to ease the load on the anchor cables, the ship's stern grounded.

The purpose of this summary is to highlight certain human element issues arising from this incident; there are many other issues highlighted in this very comprehensive accident report. Those who are involved in the management and operation of ships are strongly advised to read the whole report which can be downloaded from:
www.atsb.gov.au/publications/investigation_reports/2008/mair/251-mo-2008-003.aspx

Reports & Studies

Emergency Situations v Crisis Situations

Captain Majid Safahani Langroudi

The procedures and guidelines for dealing with emergencies are part of seafarers' education and training syllabus. Crisis situations are considerably different from emergency situations. This paper discusses the differences between the two situations.

www.he-alert.org/filemanager/root/site_assets/standalone_article_pdfs_0905-/he00960.pdf

Leading for Safety: A practical guide for leaders in the Maritime Industry

UK Maritime & Coastguard Agency

This guide is intended to help leaders and senior officers in the maritime industry improve their leadership and people management skills in order to ensure safe operations. It contains tips and best practices for ten core leadership qualities for effective safety leadership, split into five categories.

www.he-alert.org/filemanager/root/site_assets/standalone_pdfs_0355-/HE00440.pdf

Safety and Perceptions of Risk: A Comparison between respondent perceptions and recorded accident data

Bailey, N, Ellis, N, Sampson, H
The Lloyd's Register Educational Trust Research Unit
Seafarers International Research Centre

This report is the third of a series examining 'safety and perceptions of risk' in the maritime sector. It examines ship level incidents and focuses on factors related to personal injury.

www.sirc.cf.ac.uk/Uploads/In%20House/Perceptions%20of%20risk,%20accident%20data.pdf

The involvement of human factors in maritime incidents

Bob Thomson

A follow-up to an earlier article (HE00715) in which the author indicates that at present there are no internationally recognised and accepted definitions for all of the various human factors that might be responsible for any particular incident. Here, he considers the involvement of human factors in maritime incidents.

www.he-alert.org/filemanager/root/site_assets/standalone_article_pdfs_0905-/he00965.pdf

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