National Maritime Occupational Health and Safety Committee

Guidelines to Shipping Companies on Behavioural Safety

Introduction

1.   These guidelines are intended to explain the principles of behavioural safety and assist in the development of systems that enhance a shipping company's Safety Management System – leading to improvements in its function and effectiveness and thus helping to reduce occurrences of complacency and the likelihood of accidents.

2.   Behavioural safety, which is sometimes known as behaviour-based safety, is a process of improving safety performance through changing the way people behave. It achieves this through a systematic application of psychological research on human behaviour to safety in the workplace. If used correctly and consistently, its application generates a culture where;
- crew members on each ship take responsibility for their own and each other's safety
- unsafe acts and conditions are identified, investigated and resolved.

3.   It is considered that utilising behavioural safety observation and intervention techniques, coupled with proactive reporting of unsafe acts and conditions, as a means of engendering an improved safety culture, both on board ships and ashore, could contribute significantly to reductions in unsafe behaviours and dangerous occurrences.

Safety modelling

4.   There are several examples of safety modelling in use to show the relationship between unsafe acts and conditions and serious incidents involving injuries on a large scale or even fatalities. Some of these are considered here. Companies may wish to refer to one or more of them to inform their approaches to safety,

5.   **F E Bird's Accident Triangle** is based on research into two million workplace accidents. It suggested that, for every event leading to a fatality, there could be three that lead to a very serious injury, 30 that lead to a lost time injury, 300 minor injuries requiring first aid, 3000 incidents that did not lead to damage or injury (near miss incidents) and 30,000 unsafe acts or conditions that did not result in incidents or accidents. The figures can change with different industries but the relationship between them is usually very similar.

6.   Hence, by focusing on reducing the unsafe acts and conditions at the
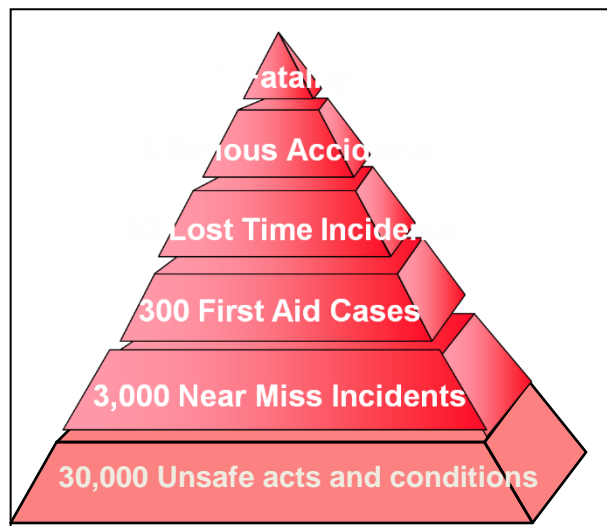
lower end of the triangle, a company can reduce and even eliminate accidents that have more serious consequences.

7.   The **Swiss cheese model** of accident causation, sometimes called the "cumulative act effect" is a model used in risk analysis and risk management. It likens human systems to multiple slices of Swiss cheese, stacked side by side, in which the risk of a threat becoming a reality is mitigated by the defences "layered" behind each other. Therefore, in theory, lapses and weaknesses in one defence do not lead to risks materialising, as long as other defences prevent a single point of failure.
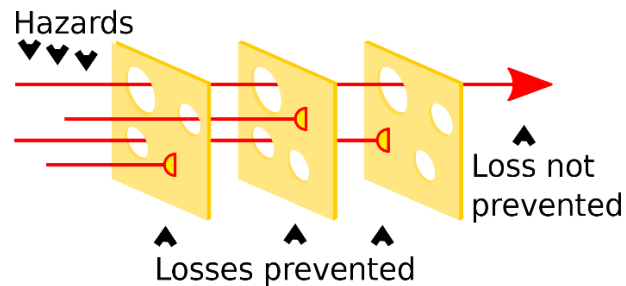
8.   The model indicates that most accidents can be traced to one or more of four failure domains: organisational influences, supervision, preconditions and specific acts.

9.   The holes in the slices represent weaknesses in individual parts of the system and are continually varying in size and position across the slices. The system produces failures when a hole in each slice momentarily aligns, producing "a trajectory of accident opportunity", so that a hazard passes through holes in all of the slices, leading to a failure.

10.   The model includes active and latent failures. Active failures encompass the unsafe acts that can be directly linked to an accident, such as a navigation error. Latent failures include contributory factors that may lie dormant for days, weeks, or months until they contribute to the accident.

11.   **HiLo Maritime Risk Management** provides companies with a means of addressing risk by analysing thousands of data points using a predictive risk model and producing recommendations for improved safety onboard. It uses incident and near miss data collected on board tankers, bulk carriers and container ships to create a predictive modelling tool for high impact, low-frequency incidents.

Implementing a behavioural safety system

12.   Practical experience in companies that have adopted behavioural safety has shown that significant improvements in safety performance can be achieved using behaviour interventions.   These guidelines provide examples of the types of interventions that companies might implement, in order to identify the unsafe acts and unsafe conditions that tend to be at the root of accidents and near-misses – and which, if eliminated, will greatly reduce lost-time incidents and injuries to shipboard personnel.

Preliminary Considerations

A key pre-determinant of the success of any behavioural safety system is the presence, in a company, of an effective safety management system. This goes beyond simply having ISM Certification: it requires that the policies, systems and procedures that make up the company's SMS are robust and operating correctly.

The effective implementation of a behavioural safety system requires commitment and leadership by example throughout the organisation. It should avoid micro-management of workers; in order to ensure 'buy in', it should include engagement with crew members and shore staff in the implementation of health and safety policies and programmes. Appendix 4 to these guidelines contains information that can be provided to seafarers on the aims of a behavioural safety policy and their role in making it effective and successful.

13.   A pre-requisite for a behavioural safety policy and programme is a working environment that is safe: in the physical sense and with active, visible leadership. A behavioural safety initiative will not replace the Safety Management System or the Code of Safe Working Practices for Merchant Seafarers but can be used to complement these. Provided there is an open and collaborative working environment, behaviour modification programmes to improve performance can be applied in conjunction with sound engineering. A behavioural safety policy drawn up and applied in accordance with these guidelines will enhance the company's Safety Management System.

14.   The criteria for introducing a policy of behavioural safety interventions are:

- Effective leadership: top management should be demonstrably committed to making the system work
- The organisation should have an open and just/fair culture
- Everyone at all levels of the company should be empowered to contribute and be involved
- Management should be fully committed to the policy and to ensuring its effectiveness, providing sufficient time and resources for those involved
- Everyone should be educated in the principles on which the system is based
- The system should be easy to understand and implement
- Training should include everyone and should be practical and interactive
- System managers and observers should be willing volunteers
- Contractors should be included in all levels of the system
- Feedback to individuals must be timely and meaningful
- Statistics must be regularly and prominently published
- Individuals must not be identified in the statistics
- The organisation should implement measures to ensure continuous improvement

15.   It is important that the following elements are in place;
- Clearly defined expectations

- Good communications
- Clear leadership
- Risk awareness
- Good planning
- Accountability
- Established safety culture
- Effective knowledge management

Aims

16.   The policy should aim to

- Promote the safety, health and welfare of seafarers
- Be easy to implement and understand
- Reduce accidents and unsafe occurrences on board
- Enhance safety vigilance through engagement
- Develop a culture in which crew members care for their own and each other's safety and are prepared to intervene, and be intervened upon positively by their colleagues
- Encourage safe behaviours through positive reinforcement (praise)
- Eliminate unsafe behaviours through an effective review process
- Give a clear conduit for improvement and correction of barriers to safe behaviour

17.   The policy should encourage teamwork as well as personal and group responsibility. It relies upon individuals being prepared to help others to work safely and be assisted and coached by their peer group. It should help to create a proactive safety management culture where the company is actively seeking out the unsafe acts and conditions that can lead to accidents and incidents occurring.

18.   Leadership commitment and positive example-setting are necessary in order to engage the workforce and ensure that safe working procedures are being followed.

19.   Key principles of behavioural safety include the following:

- Behaviourism proposes that behaviour can be influenced through consequences
- A behaviour which is followed by a "positive reinforcement", will be repeated
- A behaviour which is followed by a "negative reinforcement", will cease over an indeterminate period of time
- Positive reinforcement has been found to be more powerful than negative reinforcement

20.   The company should acknowledge that:

- Error is normal and even the best people make mistakes
- Problems are never resolved through blame
- Learning and improving are vital. Learning is deliberate
- Context influences behaviour. Systems drive outcomes
- How people respond to failure matters. How leaders act and respond counts.

21.   The key steps in using behavioural interventions to improve safety performance are:

- assessing the current level of safety culture maturity and take actions to address any weaknesses found
- ensuring that the SMS is working effectively
- ensuring that there is a visible just/fair culture within the company
- establishing proactive reporting of unsafe acts and conditions
- planning an appropriate programme for observations and interventions
- implementing the programme effectively including training for all personnel
- monitoring performance, and
- returning to the start of process to re-assess the level of safety culture maturity.

The system should encourage teamwork as well as personal and group responsibility.

22.   Success of the policy depends upon

- Commitment
- Leadership
- Teamwork
- Collaboration
- Openness
- Inter-dependent safety culture
- Psychological Safety" – a condition in which human beings feel
  - included,
  - safe to learn,
  - safe to contribute, and
  - safe to challenge the status quo

Implementation

Safety Cultural Gap Analysis

23.   The purpose is to identify the strengths and weaknesses of the company and thus identify areas for improvement. This can be done by using a safety culture gap analysis tool, which should be available for personnel at all levels in the company to complete and submit on a confidential basis. A template of a simple gap analysis tool that can be tailored by the company can be found at Appendix 1. Where possible external resources, such as an industry specialist, should be used to help review this process.

24.   Additionally, the Maritime and Coastguard Agency (MCA) has developed two Human Element Assessment Tools – HEAT-C and HEAT-S – that may be used for this purpose.

Just Culture

25.	A Just Culture may be understood by considering the following "Substitution Test" and Decision Tree, which can be applied where incidents and near misses have occurred. These help to define the degree of responsibility an individual may have failed to follow procedures.

26.	The "Substitution Test" rule states as follows; Given the circumstances that existed at the time of the event, could the person carrying out the investigation into the incident be sure that they would not have committed the same or similar breach of procedures, standards etc. If the answer is "no", this would indicate a fault with the system or procedures. The test should be conducted by several people independently and reviewed by all involved.
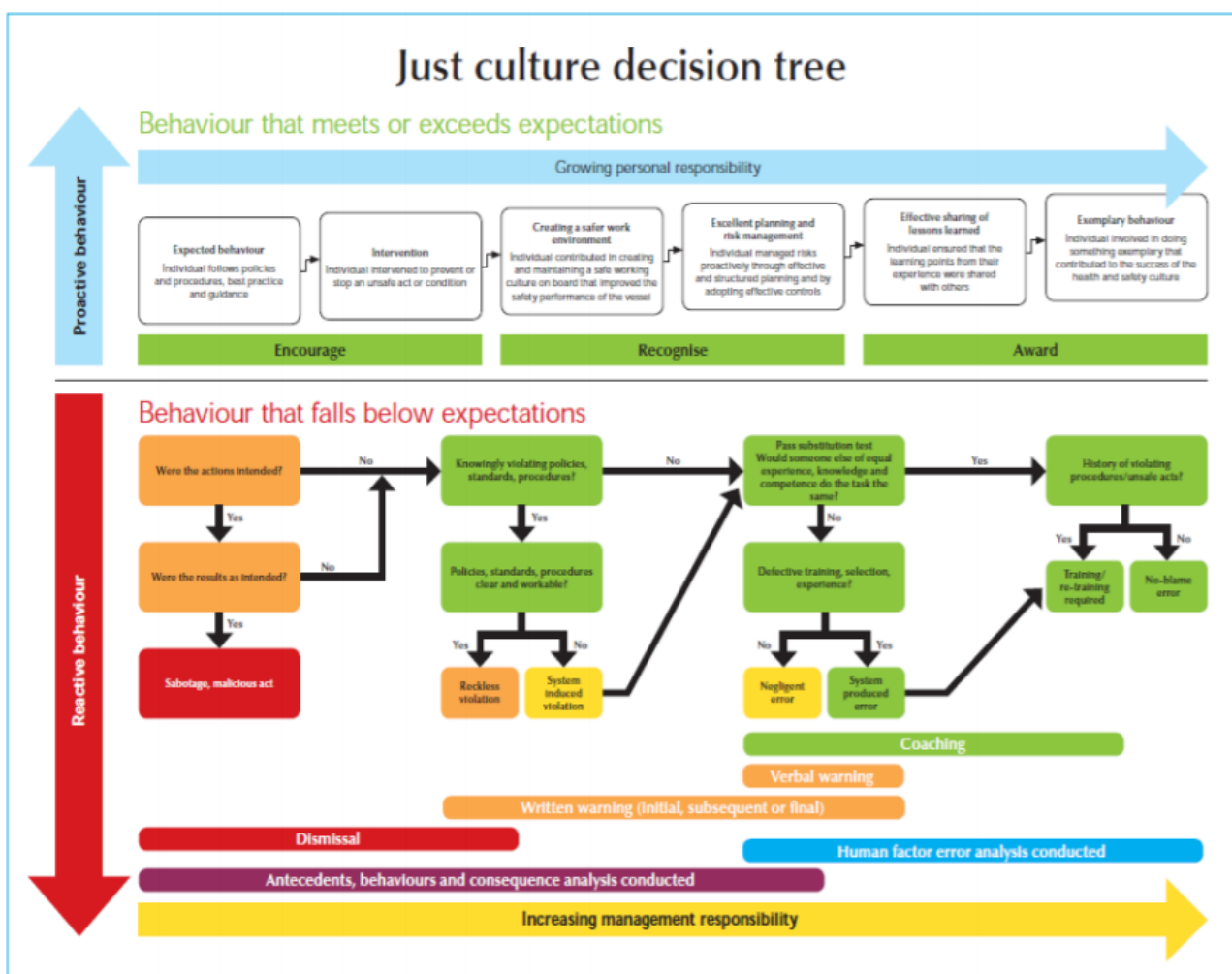

Figure 2: Just culture decision tree

Proactive Reporting

27.	Proactive reporting requires the observation and examination of leading indicators of potential hazards. These are the unsafe acts and unsafe conditions that are usually present when a safety incident occurs. A behavioural safety policy should

focus on identifying these leading indicators and, wherever possible, eliminating them, making accidents and near misses less likely. A system of safety observations is one means of identifying leading indicators; another is a workforce that is empowered to intervene whenever unsafe acts or conditions are witnessed.

28. By identifying and monitoring these underlying behaviours and conditions (Leading Indicators) that lead to accidents occurring, it is possible not only to eliminate them, but also identify trends and put preventative controls in place before the accidents occur.

Accidents
Incidents
Near Miss incidents

Unsafe acts
Unsafe conditions

29. Companies should have elements of proactive reporting in place within existing systems. Audits, inspection, planned maintenance and pre-hire employee vetting are examples of processes where the company is able to identify leading indicators and take corrective actions that can prevent accidents occurring.

30. Reactive safety management looks at accidents and incidents, analyses root causes (lagging Indicators) and takes corrective actions to prevent a recurrence. This is akin to driving using the rear-view mirror only - i.e. managing by looking at where you have been rather than where you want to go. Its effectiveness relies on accidents continuing to happen – and they usually only show the tip of the iceberg.

31. The elements that are usually missing – which are also those that can be most effective for ensuring that the crews remain safe – are those that encourage the crews to recognise and report unsafe acts and unsafe conditions.

32. A simple form that aligns with the company reporting system can be designed, to enable comparisons to be made between reactive and proactive reporting.

33. Key elements of proactive reporting include;

- The system is used to report unsafe acts and unsafe conditions, as opposed to incidents
- Proactive reporting is good safety practice and should be encouraged. Receipt of a high number of reports should be seen as an indicator that the crew is increasingly aware of the importance of safety.
- The system should require immediate correction of the unsafe act or condition (by the crew on the vessel) or identification and reporting of recommendations to ship or shore management
- The system should allow for recommendations for longer term corrective actions
- Reports should be statistically analysed and monitored for trends
- A simple form of root cause analysis can be built into the form, to make analysis easier
- Findings should be treated with the same importance as accidents and appropriate corrective actions ensured, safety alerts issued where appropriate, findings and trends disseminated and communicated etc.
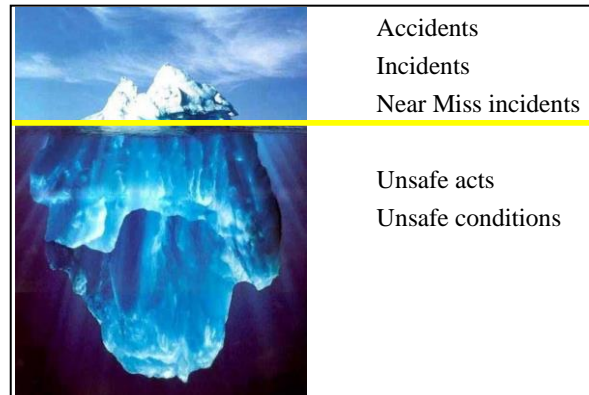
34.   A sample of an Unsafe Act Unsafe Condition form can be found at Appendix 2.

The Observation System

The observation complements the proactive reporting by actively looking for unsafe behaviours and conditions in the workplace.

The purpose of an observation is not simply to identify whether an observed person's actions and behaviours are safe or unsafe. Where an unsafe behaviour is found, the aim is to discover what is causing the observed person not to behave safely: what is preventing safe behaviour.

35.   Unsafe behaviours are those that clearly increase the potential for an incident. For example, a passenger extending their head out of a moving train window is clearly significantly increasing the risk to themselves. In the workplace, any behaviour is unsafe if it clearly puts an individual or their colleagues at increased risk of harm.

36.   The results of a behaviour are equally observable. It is not always necessary to observe actions directly to know that a certain behaviour has occurred. For instance, if a work area is neat and orderly, it means people have been putting things away and cleaning up rubbish.

37.   The observation system involves a short, planned observation of one or more fellow crew members carrying out a task in the workplace in real time during normal daily duties. An observation will typically last between five to fifteen minutes but should normally involve observation of the performance of a task from the beginning to its completion.

38.   The observer notes both safe and unsafe behaviours and conditions, as well as any actions that make them uncomfortable. For example, if observing an engineer working with bare wires, the observer would not know whether they were live and therefore dangerous, or isolated and safe. The observer makes notes of what they have observed. This is then followed by a feedback conversation, where the observer discusses what they have noted.

39.   It is important that both the observer and the observed are adequately trained and understand how the system works for it to be fully effective. For example, junior members of staff could be aided by hints on observation cards.

Tools For Observation

40.   A checklist should be developed that reflects and aligns with the reporting system of the company's SMS. It is normal to either select a list of 'Key Behaviours' that are requirements in the SMS or to use any behavioural based root causes that the company uses in its statistical analysis system.

41.   Attached at Appendix 2 is an example of a checklist that companies may wish to use, or adapt in accordance with their own circumstances, to assist with behavioural safety observations. Other observation tools may be available via the sources of further information listed at the end of these guidelines.

Feedback

42.   One of the most important components of a behavioural safety system is the provision of feedback by observers to those whom they have observed. To be most effective, a feedback session should be conversational in nature and should be of value to both the observer and observed person. It is most important to give credit for the proper use of safe procedures – this is an example of positive reinforcement.

43.   Providers of feedback should themselves be provided with training, in order to ensure that they feel comfortable giving feedback and can do so sensitively and effectively. Providers should be aware of how their comments will be perceived by the person whom they have observed.

44.   The feedback session should start with positive reinforcement of what the observed person has done well, followed by the observed being asked to describe any unsafe behaviour they were aware of and then discussing any unsafe behaviours or concerns they had. It is important to explore any factors that may have contributed to these behaviours and jointly seek solutions to any barriers to safe behaviour. The feedback session should end positively with both parties reaching consensus on any changes that should be implemented to lead to safer performance of the task.

45.   If carried out honestly and constructively, feedback can:

- Help shift risk perception. Sometimes people work the way they do because they do not perceive any risk in a situation. Feedback and discussion can help bring recognition of the potential for injury.
- Strengthen the safety culture.   The culture is made up of shared assumptions, values and practices. Changes in culture require high levels of communication. Regular feedback increases communication.
- Uncover hidden barriers. Feedback should not be one-way but should be a two-way discussion. Often there are barriers to safe work. These barriers can be identified through discussing the situation during observation. Workers may be aware of these barriers while they are doing a job but may not think of them afterwards.

46.   Feedback can have a significant impact on behaviour. Whilst an activity on the whole may have been carried out very well and safely, there may still be some elements within it that could be improved.   Feedback should include information that identifies what is being done well, what could be improved and any barriers to improvement. Joint agreement on corrective actions should follow.

47.   The feedback session should always begin positively by highlighting safe behaviours that have been observed. Where unsafe behaviours have been observed, the observed individual should be encouraged to suggest corrective actions. They may know what they are doing wrong and the correct way of doing it.

Any barriers to safe behaviour that are identified should be noted and an action plan to remove them agreed.

48.   The feedback session should always conclude on a positive note and the persons involved should be thanked for their assistance.

The Intervention

49.   It is important that all employees of the company, and in particular management and officers, are prepared to intervene when an unsafe act or condition is seen. The same techniques used for the Behavioural Safety Observation system feedback are used for the intervention conversation.   In particular it is important that the following points are covered;

- What could go wrong
- How you would get hurt
- How you can stop anyone getting hurt
- Identify any barriers to safe behaviour
- Ensure unsafe act or condition is corrected before work recommences
- Gain a commitment for long term change

50.   When analysing unsafe behaviour;

- Always address the behaviour and not the person. If, for example, a crew member is observed not wearing appropriate PPE, ask "why do people not always use PPE when performing this task" rather than "why did you not use your PPE?"
- Ask the person observed what they consider to be the consequences of the unsafe behaviour
- Identify the root cause of the unsafe behaviour – several observed unsafe behaviours may stem from a single root cause and can therefore be eradicated if the root cause is tackled effectively
- Be aware that unsafe behaviour may arise from a misunderstanding of the ship operator's procedure. Another possibility is that the procedure itself is flawed.

Reporting

51.   Reports of safety observations should be made in accordance with the company's SMS. They should be accurate and candid. Competitions between departments should be avoided as they may encourage under-reporting of incidents, in order to produce more impressive statistics. To overcome this, reporting could be encouraged with a reward system – provided a just culture model is in place, to avoid false reporting.

52.   The benefits of a behavioural safety policy are long-term. Companies that have introduced behavioural safety policies have initially experienced increases in the numbers of health and safety incidents reported, since the policy encourages reporting. However, a safe company with effective management that recognises

positive acts and safe behaviour will have a well-motivated workforce and can expect eventually to see a reduction in incidents.

GAP ANALYSIS CHECKLIST

1.   This checklist will help you in identifying gaps in your company's systems and help you to see what action you need to take to redress the balance.

2.   It is important to realise that you do not need to change the way you currently do things, your existing systems are fine if they suit your business. By all means modify them if there are benefits to be had but there is no need to change for the sake of change.

3.   Please provide at least one point of feedback in each comments section.

Does your company have the following in place:-

Clearly defined expectations	Yes	No	Part
A clear policy that gives all personnel the authority and responsibility to intervene in the interest of safety, which is openly encouraged and supported at all level of management throughout the company.			
Clear and simple safety rules that are effectively communicated to all employees and contractors.			
Simple, clear and workable procedures that have job specific safety guidelines and ensure safe methods of work.			
Positive and negative consequences associated with the safety rules and procedures are effectively communicated to all employees and contractors.			
All rules and procedures are periodically reviewed and revised to ensure they remain current and reflect any learning.			
Involvement of those that do the work in the review of rules and procedures			
An induction system that makes these requirements clear for all employees and contractors			
Comments			

Good communication			
Clear systems to identify and communicate solutions and improvements in place and actively encouraged.			
All communications are clear and concise, avoiding jargon and abbreviations.			
Understanding of communication is confirmed where critical activities are undertaken			
Face to face communication is actively encouraged.			

Reasons for change are explained and reviewed with all employees and contractors and their input into the change process sought.			
Timely and effective feedback is provided on all issued raised.			
Involvement is encouraged with open feedback and no fear of retribution.			
Feedback to the individual through appraisal which includes a review of safety attitudes and commitment.			
Regular site visits are carried out by Line and Senior Management to communicate with employees.			

Comments

Clear leadership	Yes	No	Part
Clearly demonstrated Senior Management commitment to incorporate a good safety culture throughout the company.			
Appropriate resources are provided to effectively support a good safety culture.			
Training that supports the development of appropriate safety leadership and behavioural skills.			
Recognition of outstanding safety performance. Appropriate responses to unacceptable behaviours.			
A system that encourages openness and integrity in reporting without fear of repercussion.			
Encouragement to extend the safety culture into the home through education and/or practical support.			
Incorporation of key safety leadership behaviours in your appraisal programme.			
Provision of mentoring where needed.			

Comments

Risk awareness

	Yes	No	Part
Appropriate risk assessment or Job Safety Analysis and observation skills training is provided to all employees and contractors.			
A risk assessment/JSA process in place which easy to use and understand			
Specific hazards associated with the work environment is effectively captured, communicated and shared as appropriate.			
Information on common industry hazards is captured, communicated and shared.			
Individuals only work within their ability and competency.			
Team members are encouraged to share their knowledge of new and existing hazards and control measures.			
A means of raising awareness of risks that exist outside the workplace.			
Experienced personnel are assigned to inexperienced, new or transferred personnel to share their knowledge and experience on job/site specific risks.			

Comments

Good planning

All personnel involved in the task are involved in the planning process.			
Simple, clear and workable procedures which outline individual responsibilities are provided and communicated at the planning stage.			
Information relative to work activities is captured, retained and made easily accessible to allow comprehensive planning.			
Adequate time is provided for proper planning.			
An effective Management of Change process is in place and used.			
Learning is captured and incorporated into future planning.			

Comments

Accountability	Yes	No	Part
Clear and simple safety rules are communicated to all and consequences of non conformity and unacceptable safety behaviours made clear.			
A fair and consistent response to non conformity and unacceptable safety behaviour is applied .			
Company policy clearly supports the right and duty of any person to intervene in the interests of safety.			
A requirement for all personnel to accept constructive intervention in a positive manner supported by appropriate training and coaching.			
Comments			

Effective safety culture

	Yes	No	Part
There is an unequivocal and clearly-stated commitment to a strong safety culture, exemplified by senior management in the company.			
A safety observation and intervention programme with a robust feedback system, transparent and effective analysis and action process.			
Training in intervention skills is provided where needed.			
Recognition is given for proactive intervention.			
All employees are informed of shared industry and organisational goals.			
Compliance with safety principles and rules is established as a core company value.			
Both individuals and teams are recognised for positive participation and proactive safe behaviours.			
All personnel are encouraged and supported to participate in safety improvement.			
Opportunities are provided for all employees and contractors to contribute to the improvement of safety.			
Employees and contractors are encouraged to promote safe behaviours out side the workplace.			
The personal and business benefits of improving the safety culture are recognised and communicated.			
Comments			

Effective knowledge management

A system is in place to gather internal and external information (intelligence)			
All information gathered is analysed for relevance and importance			

All accidents and incidents are investigated and analysed in order to establish root and contributing causes.			
A system is in place for the dissemination of relevant information to those that need it or can benefit from it.			
A system is in place that allows for the storage and ready access of information to those that may need to use it.			
Employees and contractors are encouraged to participate in the gathering, sharing and effective use of company knowledge			
Safety performance and trends are measured using both lagging and leading indicators			
Learnings, where appropriate, are shared across the industry.			
A system of safety alerts, learning points and bulletins are used to disseminate safety critical information effectively.			
Periodic surveys are used to establish safety climate and culture			
The status of corrective actions is monitored, visible and accessible.			

Comments

OBSERVATION CARD

Date:	Observer:

Activity		
Movement (STF)	Maintenance machinery / equip.	FRC/DC / cranes / davit related
Working cargo	Galley work	Electrical work
Cargo related / falling objects	Manual handling	Towing/anchor handling/mooring
Access / egress	Handling dangerous substance	Pollution control
Ship handling	Other (Please specify):	

Location:		
Bridge	Main cargo deck	Tanks
Machinery space	Boat deck	Paint locker
Stairs	Fo'c'sle	Storerooms
Accommodation	Cement room	FRC / DC
Office	Workshops	Other (Please specify):

Observations   (Positive = ✓ Negative = X)

Procedures / Pre-Job Planning	Watchkeeping	Pace of work
Procedures	Watchkeeping	Appropriate
Communication	Intervention	Multi tasking
Pre-job planning		
Inadequate management of change	**Knowledge / Training**	**Housekeeping**
	Application	Housekeeping
Physical Capabilities / Condition	Level	Storage / securing
Body placement / position		
Exertion	**Maintenance/Repairs**	**Tools / Equipment / PPE**
Hazards materials	Preventive maintenance	Use of tools / equipment
Hygiene	Corrective maintenance	Adjustment / repair / maintenance
	Audit/inspection / monitoring	Use of PPE
Other Party Actions (other factors)		
Weather	**Engineering / Design**	**Skill Level**
Sea state	Appropriate	Application
Visibility		Performance
Other people		

Comments

_____

_____

Observer Signature:

Actions

Item No:	What:			
Why:				
Action taken:				
Aware? Yes/No	**Agree?** Yes/No	**Able?** Yes/No	**Try?** Yes/No	**Resolved?** Yes/No
Further action:				

Item No:	What:			
Why:				
Action taken:				
Aware? Yes/No	**Agree?** Yes/No	**Able?** Yes/No	**Try?** Yes/No	**Resolved?** Yes/No
Further action:				

Item No:	What:			
Why:				
Action taken:				
Aware? Yes/No	**Agree?** Yes/No	**Able?** Yes/No	**Try?** Yes/No	**Resolved?** Yes/No
Further action:				

Unsafe Act / Unsafe Condition
Template Report Form

Company:		Vessel:	
Client:		Date and Time:	
Vessel Location:	Weather:	Operations / Activity	

Brief description of the unsafe act/unsafe condition:

Action taken to prevent recurrence, or recommendation made:

Check at least one description in each section below:

Activity:

	Movement about ship (STF)		Maintenance machinery / equip.		FRC / DC / Cranes / Davit Related
	Working Cargo		Galley Work		Electrical Work
	Cargo Related / Falling Objects		Manual Handling		Towing / Anchor Handling / Mooring
	Access / Egress		Handling Dangerous Substance		Pollution Control
	Shiphandling		Other (Please specify):		

Unsafe Act / Unsafe Condition
Template Report Form

Location on Vessel:		
Bridge	Main Cargo Deck	Tanks
Machinery Space	Engine Control Room	Boat Deck
Paint Locker	Storerooms	Stairs
Focsle	Accommodation	Cement Room
FRC / DC		
Other (Please specify):		
Potential Body Part Injury:		
Abdomen	Ankle	Arm
Foot	Finger / Hand	Groin
Shoulder	Toe	Torso
Back	Head	Wrist
Elbow	Eye	Knee
Face	Neck	Leg
Ear (hearing)	Respiratory	No injury Identified
Asset Damage:		
Vessel Damage	Equipment Damage	Pollution

Please list below the primary cause/triggering event and any other contributing factors

"P" for the primary cause and ✓ all other contributing factors that apply

Procedures/Policy/Pre-Job Planning		**Tools/Equipment/PPE**		**Other Party Actions**
	Lack of procedures		Inadequate assessment of needs	Acts of God (error enforcing condition)
	Use of wrong procedures		Inadequate human factors/ergonomics considerations	Weather
	Lack of understanding procedures		Inadequate standards or specifications	Sea state
	Inadequate procedures		Inadequate adjustment / repair / maintenance	Visibility
	Lack of communication		Inadequate removal / replacement	Actions by non-company personnel
	Not following procedures / policy		Equipment failure/defect	Actions by other crew member
	No Pre-job Planning		Improper use	Actions by management
	Inadequate Pre-job Planning		Failure of PPE	Riot, civil unrest
	Inadequate management of change		Improper or not using PPE	Underwater hazards
Physical Capabilities/Condition		**Knowledge/Training**		**House Keeping** (including deck area)
	Sensory deficiency		Lack of experience	Improper house keeping
	Physical disabilities permanent / temporary		Inadequate training	Improper storage / securing
	Inability to sustain body position		Misunderstood instruction	Lack of house keeping
	Restricted range of body movement		No training provided	Lack of timely house keeping
	Improper body placement / position		Improper training	
	Over exertion	**Maintenance/Repairs**		**Watching Keeping**
	Exposure to hazards materials		Inadequate preventive maintenance	No watch keeping
	Improper / lack of hygiene		Inadequate corrective maintenance	Inadequate watch keeping
	Fatigue		Inadequate audit/inspection/monitoring	Improper watch keeping
	Use/abuse of medication or drugs		Wrong maintenance/repair	Judgmental error
	Previous injury or illness		Over maintenance	
Haste		**Engineering/Design**		**Skill Level**
	Preoccupation with other tasks / events		Inadequate design	Inadequate assessment of required skills
	Perceived haste		Improperly designed	Inadequate practice / performance of skills
	Self applied haste		Design failure / flaw	
	Horse play			

Print Name:	**Signature:**

Information for Seafarers on Behavioural Safety Systems

The National Maritime Occupational Health and Safety Committee (NMOHSC), comprising representatives of shipowners and seafarers, has produced guidelines to shipping companies on behavioural safety systems. Behavioural safety relies on observation and intervention techniques and proactive reporting of unsafe acts and conditions to improve safety culture on board ships and ashore and contribute to a reduction in accidents.

What is behavioural safety?

1.   Behavioural safety is a way of improving safety performance through focusing on the way people behave. It requires crew members on each ship to take responsibility for their own and each other's safety and to ensure that unsafe acts and conditions are identified, investigated and resolved.

2.   Behavioural safety relies upon peer pressure – crew members need to be prepared to challenge, and be challenged by, their colleagues, though not in a confrontational manner. It is a key principle of behavioural safety that officers can be observed by ratings – it is not a "top-down" policy. Anyone can be observed by anyone else.

3.   Safe behaviours are encouraged through positive reinforcement (praise), whilst unsafe behaviours are addressed through an effective review process. The system is designed to encourage teamwork as well as personal and group responsibility.

4.   An effective behavioural safety policy enhances the company safety management system and reduces accidents and dangerous occurrences.

Just/fair Culture

5.   A Just/fair Culture is essential for behavioural safety. The aim is to ensure that unsafe behaviours are corrected, not punished.

Proactive Reporting

6.   Behavioural safety policies encourage crew members to recognise and report unsafe acts and unsafe conditions – whether or not they result in harm. An "unsafe act unsafe condition" form can be used for such reporting.

Observations

7.   A behaviour is defined as an observable act. If it is possible to take a picture of an action and show it to another person, it can be considered to be a behaviour. An observation system involves a short, planned observation of one or more crew

members carrying out a task in the workplace during normal daily duties. It should take no longer than five minutes.

8. Unsafe behaviours are those that increase the potential for an incident. For example, a passenger extending their head out of a moving train window is clearly significantly increasing the risk to themselves. In the workplace, any behaviour is unsafe if it clearly puts an individual or their colleagues at increased risk of harm.

9. The observer notes both safe and unsafe behaviours and conditions, as well as any actions that makes them uncomfortable. For example, if observing an engineer working with bare wires, the observer would not know whether they were live and thus dangerous, or isolated and thus safe. The observer makes notes of what they have observed

Tools For Observation

10. An important tool is a checklist that reflects the company's system for accident reporting. This should include a list of 'Key Behaviours' that are requirements in the safety management system.

Feedback

11. Following the observation, the observer needs to provide feedback to the observed person(s). The feedback session should always begin positively by highlighting safe behaviours that have been observed. The observer should give credit for the proper use of safe procedures – this is an example of positive reinforcement. Feedback should identify what is being done well, what is not being done so well and could be improved and any barriers to improvement. Joint agreement on corrective actions should follow.

12. Where unsafe behaviours have been observed, the observer should encourage the observed person to take corrective action. Often they will know what they are doing wrong and how to put things right. Any barriers to safe behaviour that are identified should be noted and an action plan to remove them agreed.

13. An example of an unsafe behaviour could be a failure to where safety goggles when carrying out a task for which goggles are required. Ask what prevented the seafarer from wearing goggles. The reason may be that an insufficient quantity of serviceable goggles was available for use.

14. The feedback session should always conclude on a positive note and the persons involved should be thanked for their assistance.

Interventions

15. All employees of the company should be prepared to intervene when an unsafe act or condition is seen. The same techniques used for the Behavioural Safety Observation system feedback are used for the intervention conversation. In particular it is important that the following points are covered;

- What could go wrong
- How would you get hurt
- How can you stop anyone getting hurt
- Identify any barriers to safe behaviour
- Ensure unsafe act or condition is corrected before work recommences
- Gain a commitment for long term change

16.   When analysing unsafe behaviour;

- Always address the behaviour and not the person. If, for example, a crew member is observed not wearing appropriate PPE, ask "why do people not always use PPE when performing this task" rather than "why did you not use your PPE?"
- Ask the person observed what they consider to be the consequences of the unsafe behaviour
- Identify the root cause of the unsafe behaviour – several observed unsafe behaviours may stem from a single root cause and can therefore be eradicated if the root cause is tackled effectively
- Be aware that unsafe behaviour may arise from a misunderstanding of the ship operator's procedure. Another possibility is that the procedure itself is flawed.

Reporting

17.   Reporting should be accurate and candid. In accordance with a just culture, individuals involved in events to which the reports refer should not be named or otherwise identifiable.

18.   The benefits of behavioural safety policy are long-term. The number of health and safety incidents reported may increase in the short term – but a safe, well-managed company with a well-motivated workforce can expect eventually to see a reduction in incidents.