**Report on UK Chamber of Shipping Safety Culture Conference**

**Held on 3-4 October 2023 in Bristol**

**Theme: Establishing a Learning Culture**

The UK Chamber of Shipping held its annual Safety Culture Conference at the Harbour Hotel, Bristol, on 3-4 October 2023. It was a fully in-person event with almost 100 delegates present.

**Report**

**Tuesday 3 October**

**Introduction – Taking the Temperature**

**Barry Smith, Wightlink – Chairperson, Safety Culture Working Group**

Barry welcomed delegates and explained that, having worked at sea, he had moved into quarrying and aggregates before returning to shipping with Wightlink. He said that safety culture was a fast-moving subject. Wellbeing and care were not previously thought to be relevant to safety culture but now these topics are considered highly significant. The conference would focus on learning culture and consider how much the industry was really learning from accidents. The answer was probably less that it thought, since similar incidents kept recurring. Barry also noted the propensity of courts and regulators to levy ever higher fines on companies where accidents had occurred. Transport for London had been fined £14m for the Croydon tram fatalities.

**Morning session: Leadership**

**Psychological safety and leadership**

**Dr Phoebe Smith, Health and Safety Executive**

Phoebe is Human Factors Technical Team Lead in the HSE's Risk and Human Factors Group, which provides scientific support to colleagues and consultancy to outside organisations.

Phoebe explained that psychological safety was a developing subject and she was approaching it from a human factors viewpoint. Essentially, psychological safety was characterised by a belief that one would not be punished or humiliated for speaking up with ideas, questions, concerns or mistakes and that, within a team, interpersonal risk-taking was not discouraged.

Pheobe referred to a study of hospital teams, in which it was found that those wards that scored highest for “teamworking” had the highest error rates.

Phoebe also referred to psychosocial safety, which was based on shared perceptions among employees of their organisations’ systems, policies, practices and procedures.

Indicators of psychological safety:

1. If you make a mistake on this team, it is not held against you.

2. Members of this team are able to bring up problems and tough issues.

3. People on this team sometimes accept others for being different.

4. It is safe to take a risk on this team.

5. It isn’t difficult to ask other members or this team for help.

6. No one on the team would deliberately act in a way that undermines your efforts.

7. Working with members of this team, your unique skills and talents are valued and utilised.

In a psychologically safe workplace, mistakes would be viewed as learning opportunities.

Phoebe said that, whilst the word “risk” often had negative connotations, it could mean different things. Taking risks was sometimes positive and/ or necessary. People do not perceive risks uniformly and life is not risk-free.

A key prerequisite for a psychologically safe work environment is Role model fallibility. Leaders should not claim a monopoly on knowledge. Work should be framed as learning and workers need to be open to learning from each other as you go. Being curious in important.

People need to feel that they are being treated fairly and equitably. This requires managers to listen actively and to listen to learn. They need to show appreciation and humility when people speak up and to explain why their opinion matters. Trust and respect are central.

How can leaders self-assess effectively? HSE has measurement tools, but has not designed anything specifically for psychological safety. The Royal Navy has a psychological safety measurement tool.

Phoebe commented that shipping is regimented and driven by procedures, which makes risk-taking difficult to accept. Crew resource management tends to focus on the functioning of crew members as teams, rather than as assemblies of competent individuals. It is essential to provide opportunities for workers to practise the skills necessary to be effective team leaders and team members. A lot of training focuses on technical elements. Teamwork and interpersonal skills, but they’re of great importance.

Phoebe commented that, in many organisations, managers get promoted on the basis of their technical ability, even if they have no management skills or even any desire to be managers. Also, people think of their team as the people working immediately with or alongside them, whereas in reality there are many teams of varying sizes

Cultural backgrounds, be they individual, professional, organisational or national can be influential. Persons who experienced hierarchical cultures may have greater difficulty speaking out. How did Nissan adapt to the UK? Aspects of Japanese culture are apparent even in a UK factory.

Personality tests and assessing whether people are predominantly introvert or extrovert: training can have an impact, but in emergencies people revert to type. Perhaps their cultural norms take over.

Phoebe commented that high reliability organisations are characterised by problem anticipation, containment of unexpected events, just culture, mindful leadership and learning orientation. They are learning organisations – they are not crushed when something goes wrong. How do senior leaders respond to hearing bad news? Do they only want to hear good news?

Phoebe asked how individual goals can inter-relate with those of other individuals to achieve overall goals? She drew attention to the publication ["Reducing error and influencing behaviour"](https://www.hse.gov.uk/pubns/priced/hsg48.pdf) (HSG 48), which was the HSE’s key guidance document for human factors. This looked at the general impact of human error and behaviour and how workers’ physical and mental health was affected by these and other factors. HSE had also published management standards: [www.hse.gov.uk/stress/standards/index.htm](http://www.hse.gov.uk/stress/standards/index.htm)

Phoebe concluded by recommending that delegates seek out literature on hybrid working and psychological safety. Computers and AI needed to be considered as part of teams. Workers feel psychologically less safe if they’re not clear about their roles, which meant that line managers needed specific competencies. HSE had published a [stress management competency indicator tool](https://www.hse.gov.uk/stress/mcit.htm).

During the question and answer session, David Patraiko of the Nautical Institute, commented that mariners were not trained to think, but to comply.

**How psychological safety is shaping the learning journey**

**Trish Benson, BP Shipping**

Trish began by showing a corporate BP safety film, which set out safety leadership principles. Without safety, nothing else is possible. How can we be even safer?

Trish began her presentation with a BP video, addressed to all its employees, seeking ideas for making the company and its operations safer. Previously, different sectors of the business had different safety principles. A common set of principles had now been introduced for everyone, as follows:

1. We care about each other
2. We won’t compromise on safety
3. We encourage and recognise speak up
4. We work together to understand barriers to safety
5. We learn why mistakes occur and respond appropriately. All staff encouraged to learn them and discuss them in their teams

Trish explained the potential conflict between following procedures and applying creativity. If a safety procedure is flawed, people will find workarounds. People learn through emotional connection – they have the strongest connection to incidents in which they’ve been involved, or have been close both in location terms and in knowing persons involved.

Trish stated that she is an incident investigator. BP has all the investigation tools, but recognises a need to improve how it learns from incidents. Codifying procedures in a Safety Management System is the easy part – getting them embedded and followed is the challenge.

Trish stated that the company previously set out “lessons learned” from an incident into Word documents. These were very text-heavy and tended to focus on micro-issues and less on the bigger picture. For this reason they were difficult to follow and insufficiently effective.

Trish explained that BP takes high-value learnings from different parts of its business and makes animated videos focusing on areas that can be generalised and applied to all sectors of business. On board ships, Masters show them and organise discussions, inviting comments.

Wherever in the company an incident had occurred, the lessons were for all to learn. It put people at the centre of how the company learned.

Trish said that animated videos bring learning to life. She showed a video illustrating a safety incident that had taken place at the Tangguh LNG production plant in Indonesia, whilst routine maintenance was being carried out. A worker had worked in the morning, had a break in the afternoon and then worked a nightshift. A rope had been left inside a turbine, but the supervisor had signed off the job as complete. The worker entered the turbine to remove the rope just as the turbine was re-started. He suffered serious injuries and was hospitalised, although fortunately he made a full recovery and eventually returned to work. It was noted that fatigue, communications and control of work had all contributed to the incident.

At the end of the session, delegates were invited to ask questions of Phoebe and Trish.

Question: Is there any correlation between organisational culture and psychological safety?

Phoebe: Just culture followed a move from blame culture to no-blame. A key principle of both just culture and psychological safety is the ability to speak up.

Trish: Very few people go to work to deliberately make mistakes. If part of a procedure is challenged, but nothing is done – the incentive to speak up diminishes. BP is moving away from just culture and towards a culture of “come together as one”. It is human nature to fail.

Question: how can a small company implement this?

Trish: I’ve worked in different organisations of different sizes. Communication is the key. Lockdown forced people to use technology more and made people more comfortable with it. Think about the people you need to communicate with. Recognise the commercial value of safety. Use the tools you have – it should not be necessary to organise more meetings.

Question: has any research been carried out into when accidents are most likely? When are people most likely to be affected by fatigue?

Phoebe: There is predictability about the times of day when errors are more likely. Errors are unavoidable, so the key is how they can be managed. Fatigue management is also important.

**Early afternoon session: Wellbeing and Care**

**The importance of trust**

**Tim Marsh, Managing Director, Anker and Marsh**

Tim explained that, in order to be trusted, one needs to be hard-working, have a small ego and be intelligent (including emotionally.) Anyone who is deficient on one area will risk causing chaos.

Tim stated that he had been consulted in connection with the Cullen report into Ladbroke Grove rail disaster, which had taken place in 2000. The incident illustrated that everyone in a company is involved in its safety culture. Everyone is a safety leader all day every day, whether or not they’re aware of it. Culture is made up by systems, empowerment and trust.

Tim said that, in human thinking, the front brain versus the back brain used to be thought of as a 50-50 trade-off. But it’s now seen as 94% back brain.

Tim continued to state that, for people generally, a good day would be on in which they spent 50 minutes in every hour focused and alert, followed by 10 minutes away with the fairies. A bad day would be characterised by a 35-25 minute split.

Tim made reference to a human tendency towards a fundamental attribution error. “When I’m the person who has the accident, I’m aware of all the external environment factors. When it’s someone else, they’re an idiot.” Humans are hardwired to apportion blame. It was essential for company discipline processes to be just.

Tim contrasted the statement “I want this job done safely but by Friday” with “I want this job done safely AND by Friday.” Whereas the former prioritised time over safety, the latter gave them equal priority.

Tim concluded his presentation by inviting ten volunteers to take part in a tug of war – proving that, if you want people to do things they really don’t want to do, you only need to ask them nicely!

Tim recommended the following publications:

Blink by Malcolm Gladwell

Black Box Thinking by Matthew Syed

**The importance of mental wellbeing to safety culture**

**Amanda Owen and Gavin Whyte, Heathrow Airport**

Gavin said that his father had worked in the Merchant Navy, whilst Amanda stated that her father had attended Bearwood Merchant Navy School in Berkshire!

Mental fitness continuum: Excelling – thriving – getting by – struggling – in crisis

Say yes, mean no and do nothing. How often does that happen?

A Slido poll of delegates showed that 50% of people in the room said they were “getting by” or lower. The essence of that was mental fitness. Most people are aware of what they need to do to be physically fitter, but would not know how to make themselves mentally fitter. This is the biggest challenge of adulthood.

There is a thin line between positive tension and stress. Positive tension helps us to excel, but people who are overburdened experience the same stress as those with uneven workloads. How can people be trained to treat stress as positive tension?

Gavin and Amanda stated that those who perform the same task regularly will eventually deviate from whatever system they have learned and start to make their own rules. This was where a conflict between the systematic and the human approaches occurred. They demonstrated a Mood Lift chart, in which “grateful”, “wise”, “insightful” and “innovative” were some of the positive moods, whilst “angry”, “hostile”, “Depressed” and “burned out” were negative moods. In the middle were “curious” and “interested.”

Achieving a site-wide safety culture at Heathrow Airport, means securing buy-in from the 400 companies employing people there. Heathrow is home to the biggest private water and High Voltage systems in UK. It is a 24/7 operation and there are 5,000 construction workers on site.

It means taking safe and healthy decisions, with healthy minds being part of it. When Rudy Giuliani became Mayor of New York, his first challenge was to make it a safer place. But how does one measure healthy minds?

Gavin and Amanda demonstrated the “Wheel of Life”, a tool that provided insight into aspects of one’s being that are flourishing or struggling and points towards the changes needed to remove barriers and progress. They focus on leaders and provide psychological welfare support and a mental fitness programme. They offer a half-day course for managers – 700 of whom have undertaken it so far. BA does not have mental health first-aiders, but support and trauma risk management (TRiM) advisers instead.

**Late afternoon session: Incident prevention**

**How do we stop having the same incidents year on year?**

**Incident causation and breaking the cycle**

**Stuart Edmonston, UK P&I Club**

Stuart showed statistics that indicated a total of 31 deaths in mooring/towing operations this year. Breaking the cycle of incidents required learning, which in turn depends on people opening up. It was important to depersonalise the negative aspects and personalise the positive ones. People need to be encouraged to be team players. Stuart noted that stevedores sometimes put themselves in dangerous positions and questioned whether the prevailing shipboard culture would encourage or discourage reporting of it. Challenge and response – an authoritarian management style on the bridge would discourage challenges.

Stuart noted that mixed cultural teams were not easily accepted to begin with, but they have been found to work better, since by their nature they encourage different ideas and ways of working. Communication is difficult even without language barriers. Arguments between ship and shore result from lack of mutual understanding.

Leadership styles can show concern for performance, or concern for people. The optimal position is between the two.

Stuart concluded with a case study entitled “Could it happen on my ship?” Gangway that hooked over ship’s rail tilted over, the pilot fell off whilst attempting to board and unfortunately died. The pilot is routinely the last person to come on board, so the crew were instructed to remove the protective netting that would have prevented him from falling. 75-80% of Masters at a conference admitted that it could happen on their ship, because removing netting is normal practice. The UK P&I is about to publish an information sheet for crews on unsafe acts.

**Investigations and effective learning**

**Ian Trebinski, Group Director HSSEQ, V Ships**

Ian began by asserting that V Group takes learning very seriously. He recalled that, on is first day at nautical college 27 years earlier, he learned about the dangers of enclosed spaces. Yet fatal accidents in enclosed spaces are continuing to occur. The industry has not improved, because it has not learned the key lessens.

Ian felt that the ISM code is not doing its job. Most safety management systems (SMSs) were written to ensure statutory compliance. By contrast, V Group had written its SMS to meet the needs of customers. This resulted from commercial discussions driven by industry engagement, resulting in higher standards and stronger safety performance. Flag state and classification society surveyors were far behind V’s customers in terms of what they demand. Putting more boxes on a checklist won’t save lives. Size of SMS has reduced by 25%.

Root cause analysis brings together disparate types of incident. It is essential to consider every possible learning opportunity, share learnings and hard-code them into the process. The reason can be traced back to an incident, or near miss, or audit finding etc. Together in Safety (TiS) and anything that helps us do things better becomes part of learning cycle.

Ian said that changes of processes need to start by inviting seafarers into the office and giving them a blank sheet of paper. Since they will be required to follow the processes, it makes sense for them to be involved in designing them.

Means of communication are being modernised rapidly. Over the last 6 months Artificial Intelligence has been used to convert text into animation and translate it into different languages. The industry needs to be better at reaching out to the Tik Tok generation – if they can’t learn something in 30 seconds, they never will.

Ian concluded by stating that, within the shipping industry, companies do too many things independently when collaboration would be more efficient.

**Together in Safety**

**Graham Westgarth, President, UK Chamber of Shipping**

Graham stated that people’s views are shaped by their past experiences. Safety leaders need to share their experiences and also learn from others.

Graham explained that he had joined his first ship in 1971. There were no safety processes in those days, crew members were expected to recognise danger and act accordingly. They would routinely enter chemical tanks, but this would not happen today.

The turning point had been the 1987 Herald of Free Enterprise disaster, as it prompted people to start discussing Safety Management Systems. The Safety Case Regime had been an outcome of the Cullen report into the Piper Alpha disaster one year later. Safety was based on goal-setting rather than prescriptive legislation. However, safety improvements in the offshore oil and gas sector happened more rapidly that in maritime sector.

In 1993 the IMO adopted ISM Code, which came into force November 1998. Graham contended that it improved safety. The oil majors adopted Du Pont principles, which were still process-based. A further innovation was Tanker Management and Self-Assessment (TMSA)

Graham asked whether increased regulation was necessary in order to break the incident cycle. He did not believe this was the case. The global fleet comprised 60,000 ocean-going vessels, whilst shipowner companies owner, on average, five 5 vessels. Hence there were 12,000 owners, each with their own views on how to operate.

Graham concluded by advising that TiS is a free resource for whole industry.

**Wednesday 4 October**

**Morning session: Learning and Collaboration**

**The safety learning cycle**

**Barry Kirwan, Safemode**

Barry began by telling the conference that he had started his career working in the nuclear industry. Safety culture came of age following the Chernobyl disaster in 1986.

Air crash in which 74 schoolchildren lost their lives was a pivotal moment. Barry subsequently set up a safety culture programme for the aviation sector with Aberdeen University

The Safemode project had run during the Covid-19 pandemic. The White Paper “[Towards a safety learning culture in the shipping industry](https://www.safemodeproject.eu/uploadFile/7420221039476041055.pdf)” was one of the key outputs. The Safemode project team had interviewed seafarers from all over the world and found that half had never heard of “just culture.” A word cloud showed that, whilst there was a degree of common ground between what seafarers said and what the accident investigators said, there were also many differences.

Barry explained that, initially, the European Commission had asked Safemode to focus on just culture. There is EU legislation that makes just culture mandatory in aviation. More than half of those interviewed said it wouldn’t be effective in the maritime sector.

Barry demonstrated a Safety learning cycle thar required consideration of the following:

1. What was the task and situation?

2. What didn’t go according to plan?

3. How did it happen? (Internal mechanism)

4. Why did it happen? (Contributory factors)

Barry then explained a core element of SAFEMODE, which is a Safety Human Incident & Error Learning Database (SHIELD) Open Data Repository. This database and its taxonomy enables systematic analysis and collection of Human Factors elements in safety occurrences (incidents/accidents) in transportation, especially for aviation and maritime operations. Data queries using SHIELD can provide feedback to system and operation designers and safety managers. It also enables quantification of human components in safety risk models.

The SHIELD taxonomy is a means of discussing safety, with common terminology. If incidents keep happening, it will indicate a problem with operational leadership. EMSA is using SHIELD taxonomy for human factors classification.

Barry highlighted the importance of sharing safety intelligence. It can be effective even without gigabytes of data.

Barry noted that there are not so many human factors specialists in maritime as in aviation. Safemode has produced a free [Human Assurance Toolkit](https://www.safemodeproject.eu/EhuridHumanAssuranceToolkit.aspx) that companies can use.

[QR Code link to survey didn’t work. Barry will re-send after the conference]

Barry asserted that one company CEO had said that he needs to hear bad news before HE becomes headline news! He suggested using the Swiss Cheese model in reverse – looking from top management level downwards, making it the first slice that is examined, not the last. Even in aviation some companies are reluctant to do this. Budgetary implications are a problem. A Chief Financial Officer whom Barry had interviewed had thought that safety was nothing to do with him. Barry had made it plain to him that the opposite was true.

Barry recommended that delegates read the publications of [Professor Sidney Dekker](https://sidneydekker.com/).

It is essential to listen to people and to understand why they do what they do. Group learning exercises involving crew members after an incident can be of considerable value, as they will have differing perspectives, which contribute to learning.

Following Barry’s presentation, Graham Westgarth highlighted the importance of setting the right tone onboard a ship through advanced crew resource management. He cited a company in which the owner called the Masters and Chief Engineers “his Vice-Presidents at sea.”

**Network Rail’s safety framework – how we learn and evolve**

**Rupert Lown, Network Rail**

Rupert opened by revealing that Network Rail (NR) had implemented a BAC limit of about one third of the limit for drivers in the UK. It lost 30-40 staff a year for failing drug or alcohol tests.

“Everyone home safe every day” was NR’s mission statement. NR has 22,000 miles of track, 6,500 level crossings and 2,500 footpath crossings, hence a very high level of interaction with the public. Engineers are working with Victorian infrastructure so they need to be highly skilled. At railway crossings, a major concern is people walking across tracks with headphones on and looking at their phones, so not paying attention to oncoming trains. Although 22,000 miles of track have been fenced off, some members of the public still break through.

Rupert explained that one method of checking that people are actually doing what they’ve pledged to do is through supportive assurance. With 100,000 workers, NR has to meet with suppliers, contractors and competitors to discuss and ensure safety.

Rupert said that NR had maintained good safety performance even during strike days, something for which the trade unions deserved credit.

Rupert continued that learning needed to take place constantly. The Office of Road and Rail (NR’s regulator) publishes reports and NR needs to learn lessons.

Rupert concluded by saying that establishing a just culture is challenging, because the workforce can be suspicious of the motives of management. However, NR published a lot of information free of charge.

**Case study: Dublin SafePort**

**Michael McKenna and Gerard Lynch, Dublin SafePort**

Michael, the Harbour Master of Dublin Port, said that the port handles 38m tonnes of cargo and sees 17,000 ship movements annually. It has only one navigation channel and the land area of the port facility is limited.

Michael explained that he had joined the Port of Dublin seven years earlier. There had been six fatalities in the preceding seven years in three terminals. Alcohol had been a factor in two of them. There had also been an incident in which an HGV driver had crushed by large machinery.

The then CEO had first put forward the idea for the Dublin Safe Port initiative. All the contractors operating in the port agreed to take part – but nobody knew what to do. Consultants were engaged to help devise a plan. For the first meeting, which took place just after lockdown, seven competing companies were in a room together. The talked openly about fatalities they’d experienced. All showed commitment to collaborating on safety. Everyone had a view on how safely everyone else operated but were less candid about their own companies. Now, discussion flows and meetings frequently overrun.

Michael said that an important outcome had been agreement on a common speed limit of 20kmh across the port and common standards for PPE. Pilots can see stevedores on the quayside in bright orange PPE having toolbox talks. There are Golden rules that are applicable to everyone. Safe Port has agreed work plans up to 2025, including training events and a system of safety champions.

Gerard then explained the engagement sessions that are held every Friday, in the port building, with different participants each time. Sharing stories can be uncomfortable – ok Jason Anker, who is Tim Marsh’s collaborator, was in Dublin port when he suffered the accident that had left him wheelchair-bound.

Gerard said that workers are given stop work authority and management in each organisation in the port has given a commitment to support this. Hence people are expected to intervene if they see something unsafe. It is essential that everyone has the same power. Those who remain reluctant to open up in front of management are provided with anonymised means for expressing their concerns.

At the most recent Safe Port conference, it had been commented that what was considered acceptable from a safety viewpoint had changed and higher standards than would have applied in the past had been normalised. An initiative similar to Safe Port had been introduced at Dublin Airport.

Following the presentation, it was asked whether the Port of Dublin collaborated with other ports. Michael replied that there was an Irish Ports’ Safety Forum, but Dublin was by far the largest port in Ireland. He was looking to establish links with ports that were of comparable size to Dublin in other countries and was in contact with Port Skills and Safety in the UK.

**Interactive reflective learning session: Learning culture and causal reasoning**

**Patrick McNeil, Shell**

Patrick began the session by asking how many conference delegates were staying in the hotel that was hosting the conference. He then asked how many had read the evacuation notice posted in each bedroom, how many had then left their rooms to check that the notice was correct and how many had counted the number of steps to the nearest fire exit. Although it was everyone’s personal safety that was potentially at stake, not very many delegates had taken all these steps.

Patrick reported on his observations at the rail terminal at Heathrow Airport, where a blue line had been drawn on the platforms, parallel with the yellow line but some distance back from it. There was a Transport for London (TfL) announcer on the platform, which became very crowded, leading people to encroach over the blue line. Seeing this, the TfL announcer became more agitated – but reacted by speaking more quickly in English, despite the presence of many non-English speakers on the platform.

To illustrate the application of causal reasoning to incident investigations, Patrick highlighted the 1977 Tenerife air disaster. Gran Canaria airport had been closed following a terrorist bomb attack, leaving several flights and passengers stranded. Tenerife airport was the closest alternative, but it was a much smaller airport than Gran Canaria and on Sundays had only two air traffic controllers on duty. Although Gran Canaria reopened after a few hours, some flights had landed at Tenerife and the captain of the KLM flight was anxious to avoid delays because of crew working hour restrictions.

Between 1651 and 1713 on the day of the disaster, there was reduced visibility caused by fog. The Pan Am flight was instructed to taxi to 3rd exit onto the main runway, even though the captain did not think it was safe to do so. The KLM flight prepared for take-off, but had not been cleared. Both aircraft were sending radio messages sent on same frequency, meaning that they interfered with each other and were unintelligible. The KLM flight believed it had take-off clearance and accelerated along the runway, but then the KLM Flight Engineer saw the Pan AM aircraft on the runway in the path of the KLM aircraft.

The Pan Am pilot attempted an emergency left turn to get clear of the runway, whilst the KLM pilot tried an emergency take-off, but couldn’t clear the Pan Am aircraft. There were 61 survivors on Pan Am aircraft but none aboard the KLM aircraft.

What were the causes?

* Absence of standardised communications between planes and air traffic control
* Inadequate radio communication facilities
* Inadequate visibility
* KLM captain who refused to be challenged
* Failure to check and confirm instructions – both crews acted on basis of what they thought they had heard
* Language barrier
* Time pressure
* Adequacy of airport facilities at Tenerife airport
* Shortage of resources and back-up procedures
* Short notice changes to passage plans – 14 flights that they hadn’t expected

Reasoning is the result of logical thinking. But different people can think logically and reach different conclusions. Bishop Desmond Tutu once said “There comes a point where we need to stop just pulling people out of the river. We need to go upstream and find out why they’re falling in.”

The purpose of an investigation is to find out what happened, how and why. Why does reasoning matter? Depending on how we reason, we will either think “how did I get into it” or “how do I get out of it.” Both questions need to be answered.

Defensive reasoning can lead to blame culture. Audits look for things that do not work, or did not work. Several businesses are using solution reasoning all the time. Emergency services are solution-based.

Causal reasoning isn’t about “I’d have done it this way”. How many reports say “the individual didn’t follow the procedures”? Common responses are to retrain the individual, or to add to the procedures. Focusing on an individual as opposed to the organisation means that nothing gets learned.

Patrick asked delegates to consider three types of reasoning – defensive, solution and causal – when posing the questions what happened, how and why in Tenerife. Examples are shown thus!

Defensive reasoning

1. Both captains should have confirmed their instructions from ATC
2. ATC should have allowed only one aircraft to taxi at one time
3. KLM captain should have taken notice of what the flight engineer was telling him

Solution reasoning

1. Introduce Standard Communication Phrases in a common language
2. Implement procedures to apply in poor visibility
3. Train Captains in the importance of listening to the concerns of their crews

Causal reasoning

1. There were no rules requiring separate radio channels for each aircraft
2. There was no way to confirm the position of any aircraft in poor visibility
3. There was no listening culture, no training in crew resource management and the importance of speaking up and challenging and no incentives for crew members to speak up

Finally, Patrick noted than may delegates would have arrived by rail at Bristol Temple Meads station and needed to use the underpass to reach the exit. There is a sign at the top of the stairway stating that users should hold the handrail on the stairs. When he was there, hardly anybody did so. He had noticed that only one handrail had been installed on each stairway. If the station managers want people to hold a handrail, they need to provide more handrails.

**Closing remarks**

**Graham Westgarth, President, UK Chamber of Shipping**

Graham said that the industry needs to move beyond procedures, training and systems and focus on engagement with people. He believed that Dublin SafePort was a great example. Shipping remains very hierarchical and these behaviours are brought ashore. More of a bottom-up approach is needed, in order to ensure that seafarers feel that their companies care about them.