Your way to CPD

The Institute’s policy on Continuing Professional Development (CPD) has gone through various evolutionary phases over the years, but has always centred on supporting and encouraging members in their own efforts to undertake CPD and hence develop their careers. There have been many debates about structured CPD, points or hours systems, and even mandatory requirements, but for the present we are content to raise the awareness of the importance of professional development and ensure that the work of the Institute provides a rich source of knowledge from professionals for others to learn from. In doing so, we are also promoting the concept and means of CPD to the maritime industry at large and hopefully making people realise how important it is for the success of their business.

So how can you or should you engage in CPD? For those serving at sea, or ashore and still maintaining their STCW qualifications, there are the statutory courses and examinations so that requirement is clear cut. Nevertheless, reflection on the learning outcomes of these courses and how they were provided is just as valuable. Employers’ courses and seminars are another source and are generally very focused on the specific needs of the company but have the added advantage of bringing sea and shore staff together to exchange views and seek solutions. Another example in this category are Bridge Resource Management (BRM) courses, which many companies run themselves or utilise training providers with the necessary simulator facilities. The benefits of this training on a regular basis are set out by Simon Hughes (see pp 8-10) and, as collisions and groundings are again on the increase, it really is CPD that can save the company’s bottom line from disaster. BRM has been included in the STCW 2010 Manila Amendments so will, in any case, become a mandatory requirement for Certificate of Competency holders by 1 January 2017.

Commercially organised conferences are very varied in subject matter and can be equally varied in usefulness so should be selected with care. The Institute supports some of these where appropriate and negotiates a members’ discount. Given the relatively high cost of such conferences, members utilising these discounts will soon recoup the cost of their annual membership subscription – a very tangible benefit which also applies to the much lower cost seminars run by the Institute and its branches (see ‘For your diaries’ p 2 and the website for details of current events and discounts available).

Enclosed Space Entry
For those members and industry colleagues within striking distance of the SusCon Campus of NW Kent College near London on 11 September, we encourage you to attend the London Branch seminar on ‘Entry into Enclosed Spaces’ (see enclosed brochure or website for details). This is the sequel to the hugely successful seminar held in Aberdeen last year by the North of Scotland Branch, which naturally focused on the offshore sector, whereas this one will embrace the broader shipping industry. Whatever the type of ship, the issues are essentially the same and the Institute will remain at the forefront of efforts to eradicate the needless deaths and injuries arising from these dangers. This work will encompass the full range of Institute activities through publications, seminars, web forums, and input to the IMO. The need for a management system dedicated to enclosed spaces is set out by our colleagues and partners in the seminar at Mines Rescue Marine this month (see pp 5-7), and the theme will continue to be addressed in the Institute’s other publications and books.

So there are many ways of gaining CPD, including the personal aspect of self-study by simply reading the publications issued by the Institute and other publishers as well as the regulatory bodies such as the IMO. There is, however, some concern as to whether the right books, in addition to the mandatory ones, are reaching the ships in these days of tight budgets (see Bridge Libraries pp11-12). We certainly encourage companies not to scrimp on such inexpensive and yet valuable sources of knowledge for their people and to consider what it says about the company’s attitude to professionalism if they do. 🌟
MARS 201344

20 kg is still too heavy

Two engine crew, the chief engineer and an assistant, were working on a deck air compressor. Work entailed the removal of a reduction valve which weighed approximately 20kg and is situated in a base approximately one metre from the deck and with limited access. The chief engineer lifted the valve from the base and then took it up a flight of stairs to the workshop. Soon after this task he experienced pain and discomfort in the lower abdomen. He was given bed rest and treatment as per medical advice for a suspected hernia and repatriated at the next port.

The company investigation found

- Although access to the reduction valve was limited, the use of mechanical means such as lifting strops or chain block was not considered for lifting the valve.
- No trolley was used to transport the valve, nor was the load shared between two crew with strops.
- The chief engineer disregarded established procedures for lifting and carriage of heavy objects with a view to quickly completing the job. The position of the valve was already identified as a hazard.

Editor’s Note:

It is often the case that senior managers are the most likely to contravene safety procedures for a variety of reasons. It is crucial for senior managers to lead by example, not just to ensure their own safety, but to set an example for others.

MARS 201346

Caustic soda and eyes – inadequate protection

A chemical tanker was at anchor where her tanks were to be prepared for loading a new cargo of 50% sodium hydroxide solution, also known as caustic soda. Two crew were detailed to remove the residues of the previous cargo using a mobile pump. Both were wearing protective equipment; cotton overalls, rubberised jackets, safety boots, protective gloves, open-sided eye goggles and safety helmets.

Portable pump with pressure side (red dotted line), suction side (red continuous line) and hose clamp used to attach hoses to pump.
The bosun stood at the coaming of the entry hatch to the tank to keep an eye on the work. The Master was also nearby. While the caustic soda was being pumped out, the hose parted from the pressure side of the pump (red dotted circle in photo), spattering one crew member with the caustic solution. A small quantity of the product also entered his eyes. The victim was immediately taken to his cabin where his eyes were continually rinsed with water until the arrival of rescue services. The victim was transported to the hospital and treated as an in-patient for ten days.

**Root causes:**
- Given that contact with only a 5% sodium hydroxide solution can cause extremely severe chemical burns, the protective equipment used was inadequate for the planned manoeuvre using a 50% solution. The IBC Code states that protective clothing made of chemical-resistant material as well as tightly fitting eye goggles and/or face shields are needed for caustic soda. The cotton overalls and eye goggles used, which were open at the sides, did not meet these requirements.
- There was a substantial lack of training with respect to the crew’s ability to handle cargo on a chemical tanker.
- The safety awareness of the ship’s command, deck officers and deck crew was not sufficient for safe and proper handling of the sodium hydroxide solution. The Master, tank cleaning team and bosun were all near the forward part of the vessel, yet none took action with regard to the inadequate safety clothing of the tank team.

**Editor’s Note:** Here again we see a lack of safety leadership. It appears that the team had not done their homework with respect to working with caustic soda. The IBC Code is the best source and reference for working with chemicals. Had the crew employed the procedures found in this important reference work, chances are there would not have been the injuries sustained in this instance.

**MARS 201347**

**Incinerator fire due to dirty solenoid valve**

An oiler was proceeding to the engine room via the engine casing entrance. After leaving the paint locker he hit his forehead on the inert gas (IG) main line directly above and to the side of the paint locker entrance. The oiler suffered a cut to the forehead.

**Root causes**
- 1. The crew member was not wearing correct PPE for the task.
- 2. The crew member was preoccupied with the task at hand.
- 3. The IG main line had been previously identified as a hazard, and was already marked with ‘tiger stripes’. Nonetheless, due to regular passing of the pipe without incident crewmembers had become complacent about the danger.

**Action taken**
- 1. A company wide review of trip and bump hazards on vessels and a reassessment of whether current warning/identification measures are sufficient, or if additional measures are required.
- 2. In this case it has been identified that ‘tiger stripes’ on the piping alone were an insufficient visual warning. Tiger stripes have now been painted on the deck and a soft protective covering placed around the flange.

**Company recommendations**
- A company wide generic risk assessment for the normal operation of the incinerator to be established.
- Vessels to create a comprehensive risk assessment with additional controls when using defective equipment which must be approved by the company.
- Urgent spares to be supplied as soon as practically possible as detailed in the company SMS. Vessels to follow up with office for their delivery.
- Incinerator operating procedures to be updated.
- Vessels to notify the company of their requirements for shore discharge of waste oil when incinerator is defective and cannot be used.
- The critical incinerator parts to be identified on all company’s vessels and one set to be kept on board as spare.

**MARS 201348**

**Tiger stripes not enough**

An oiler was proceeding to the engine room via the engine casing entrance. After leaving the paint locker he hit his forehead on the inert gas (IG) main line directly above and to the side of the paint locker entrance. The oiler suffered a cut to the forehead.

**Root causes**
- 1. The crew member was not wearing correct PPE for the task.
- 2. The crew member was preoccupied with the task.
- 3. The IG main line had been previously identified as a hazard, and was already marked with ‘tiger stripes’. Nonetheless, due to regular passing of the pipe without incident crewmembers had become complacent about the danger.

**Action taken**
- 1. A company wide review of trip and bump hazards on vessels and a reassessment of whether current warning/identification measures are sufficient, or if additional measures are required.
- 2. In this case it has been identified that ‘tiger stripes’ on the piping alone were an insufficient visual warning. Tiger stripes have now been painted on the deck and a soft protective covering placed around the flange.
The vessel was downbound through a restricted waterway at night. At a lock, there was a change of pilots. Information was exchanged between pilots and the Master, among others, that the gyro-compass was 3° high. As the Master exchanged information with the new pilot, he assumed conning and operational control of the vessel.

The vessel's pilot card showed a schematic of the navigating bridge that portrayed it as symmetrical either side of the centreline of the vessel. None of the documentation on the bridge indicated the important information pertaining to the conning and steering position, which was offset from the centreline. As it was, the steering stand was almost three metres to starboard of the centreline of the vessel. This resulted in a parallax error of approximately 1.6° to starboard if the line of sight is taken from the steering stand. The pilot was apparently aware that the steering stand was offset from the centreline, but had estimated the potential error to be about 0.5°.

Furthermore, the pilot card did not clearly indicate that the vessel was equipped with an articulated flap-type rudder, nor were the Master or other crew members apparently aware of this.

As the vessel cleared the lock the speed over the ground (SOG) was about 4 knots. The pilot then asked the Master to increase the pitch to 20% and requested the helmsman to steer on a heading of 353° gyro (G) to bring the vessel to the south of the channel centreline. This manoeuvre was standard practice to compensate for the flow coming from the regulating channel, starboard of the vessel. A few minutes later the pilot ordered the helmsman to steer on the light in the middle of the bridge span ahead to bring the vessel back towards the centre of the channel. At this time, Traffic Control also informed the bridge team that the bridge pillars immediately either side of the channel were not illuminated.

By this time the Master and the OOW were close to the pilot and observing the manoeuvre as the vessel proceeded at about 5.5 knots SOG. About one minute later the pilot gave the helmsman orders to bring the vessel's head towards the north pillar of the bridge, which was not illuminated but was visible. Once the vessel was steadied on the pillar, the pilot found the heading to be 349.5°G and ordered the helmsman to steer 349°G (346° True). Since the course of the channel was 348°T, this heading would bring the vessel towards the centre more quickly. The pilot then reduced the pitch to 15%.

Shortly thereafter the pilot observed that the vessel was more to the south than expected, but this was not judged to be abnormal. He then reduced the pitch to 10% for the entry into the narrower part of the channel ahead. As the vessel entered the restricted part of the channel with a SOG of 6.8 knots and a heading of 350°G the helmsman had to apply starboard rudder to keep the vessel on the desired heading (an indication of bank suction astern). Shortly thereafter the vessel's course took a sudden sheer to port. Immediately, the pilot ordered the rudder hard to starboard and requested that the Master activate the bow thruster. The pilot used the CP propeller lever to produce an engine kick ahead, then set the CP propeller lever at full astern but the vessel continued crossing the channel at a 45° angle.

The vessel's bow subsequently grounded on the north bank of the channel some 0.75 nautical miles downstream from the lock they had just exited, the stern to the south side of the channel thereby blocking the waterway; vessel traffic was interrupted for approximately 10 hours until the vessel was successfully refloated.

Some of the analysis and findings of the report indicate that:

Neither the offset steering stand from the centreline of the vessel nor specific and detailed information such as parallax error were provided to the pilot.

On-board documentation did not clearly identify the vessel's rudder type, nor were the bridge team members aware that the vessel was fitted with an articulated flap rudder.

Editor's Note: Having a complete and detailed Pilot Card is crucial. Both the offset steering position and resulting parallax error as well as the articulated flap rudder are very important facts that should have been known to everyone involved. Yet, what was not mentioned in the official report was the apparent lack of complete communication between the bridge team, a critical element in good BRM. For example, the helmsman found he had to use more and more starboard helm to keep the required course, an early indication that the stern was experiencing bank suction. This fact should have been communicated to the pilot and Master/OOW instantly, thus giving advance warning of the onset of bank effect. This knowledge would have allowed countermeasures to be initiated before it was too late and the vessel took the sheer across the channel.

High speed and heavy weather

The vessel had just cleared the jetty and was under pilotage. The telegraph order was given for full ahead. However, the RPM remained low, at 130, with an estimated speed of 5.8 kts. High density black smoke was then seen coming from the funnel. The chief engineer reported to the bridge suspecting a problem with the main engine turbocharger. After safely anchoring, the turbocharger was opened up and reported to the bridge suspecting a problem with the main engine turbocharger. After safely anchoring, the turbocharger was opened up and requested that the Master activate the bow thruster. The pilot used the CP propeller lever to produce an engine kick ahead, then set the CP propeller lever at full astern but the vessel continued crossing the channel at a 45° angle.

The vessel's bow subsequently grounded on the north bank of the channel some 0.75 nautical miles downstream from the lock they had just exited, the stern to the south side of the channel thereby blocking the waterway; vessel traffic was interrupted for approximately 10 hours until the vessel was successfully refloated.

Some of the analysis and findings of the report indicate that:

Neither the offset steering stand from the centreline of the vessel nor specific and detailed information such as parallax error were provided to the pilot.

On-board documentation did not clearly identify the vessel's rudder type, nor were the bridge team members aware that the vessel was fitted with an articulated flap rudder.

Editor's Note: Having a complete and detailed Pilot Card is crucial. Both the offset steering position and resulting parallax error as well as the articulated flap rudder are very important facts that should have been known to everyone involved. Yet, what was not mentioned in the official report was the apparent lack of complete communication between the bridge team, a critical element in good BRM. For example, the helmsman found he had to use more and more starboard helm to keep the required course, an early indication that the stern was experiencing bank suction. This fact should have been communicated to the pilot and Master/OOW instantly, thus giving advance warning of the onset of bank effect. This knowledge would have allowed countermeasures to be initiated before it was too late and the vessel took the sheer across the channel.

Furthermore, the pilot card did not clearly indicate that the vessel was equipped with an articulated flap-type rudder, nor were the Master or other crew members apparently aware of this.

As the vessel cleared the lock the speed over the ground (SOG) was about 4 knots. The pilot then asked the Master to increase the pitch to 20% and requested the helmsman to steer on a heading of 353° gyro (G) to bring the vessel to the south of the channel centreline. This manoeuvre was standard practice to compensate for the flow coming from the regulating channel, starboard of the vessel. A few minutes later the pilot ordered the helmsman to steer on the light in the middle of the bridge span ahead to bring the vessel back towards the centre of the channel. At this time, Traffic Control also informed the bridge team that the bridge pillars immediately either side of the channel were not illuminated.

By this time the Master and the OOW were close to the pilot and observing the manoeuvre as the vessel proceeded at about 5.5 knots SOG. About one minute later the pilot gave the helmsman orders to bring the vessel's head towards the north pillar of the bridge, which was not illuminated but was visible. Once the vessel was steadied on the pillar, the pilot found the heading to be 349.5°G and ordered the helmsman to steer 349°G (346° True). Since the course of the channel was 348°T, this heading would bring the vessel towards the centre more quickly. The pilot then reduced the pitch to 15%.

Shortly thereafter the pilot observed that the vessel was more to the south than expected, but this was not judged to be abnormal. He then reduced the pitch to 10% for the entry into the narrower part of the channel ahead. As the vessel entered the restricted part of the channel with a SOG of 6.8 knots and a heading of 350°G the helmsman had to apply starboard rudder to keep the vessel on the desired heading (an indication of bank suction astern). Shortly thereafter the vessel's course took a sudden sheer to port. Immediately, the pilot ordered the rudder hard to starboard and requested that the Master activate the bow thruster. The pilot used the CP propeller lever to produce an engine kick ahead, then set the CP propeller lever at full astern but the vessel continued crossing the channel at a 45° angle.

The vessel's bow subsequently grounded on the north bank of the channel some 0.75 nautical miles downstream from the lock they had just exited, the stern to the south side of the channel thereby blocking the waterway; vessel traffic was interrupted for approximately 10 hours until the vessel was successfully refloated.

Some of the analysis and findings of the report indicate that:

Neither the offset steering stand from the centreline of the vessel nor specific and detailed information such as parallax error were provided to the pilot.

On-board documentation did not clearly identify the vessel's rudder type, nor were the bridge team members aware that the vessel was fitted with an articulated flap rudder.

Editor's Note: Having a complete and detailed Pilot Card is crucial. Both the offset steering position and resulting parallax error as well as the articulated flap rudder are very important facts that should have been known to everyone involved. Yet, what was not mentioned in the official report was the apparent lack of complete communication between the bridge team, a critical element in good BRM. For example, the helmsman found he had to use more and more starboard helm to keep the required course, an early indication that the stern was experiencing bank suction. This fact should have been communicated to the pilot and Master/OOW instantly, thus giving advance warning of the onset of bank effect. This knowledge would have allowed countermeasures to be initiated before it was too late and the vessel took the sheer across the channel.
Providing learning through confidential reports – an international cooperative scheme for improving safety

MARS: You can make a difference.

Everyone makes mistakes or has – or sees – near misses. By contributing reports to MARS, you can help others learn from your experiences. Reports concerning navigation, cargo, engineering, ISM management, mooring, leadership, design, training or any other aspect of operations are welcome, as are alerts and reports even when there has been no incident. The freely accessible database (http://www.nautinst.org/mars/) is fully searchable and can be used by the entire shipping community as a very effective risk assessment, loss prevention and work planning tool and also as a training aid.

Reports will be carefully edited to preserve confidentiality or will remain unpublished if this is not possible.

Editor: Captain Paul Drouin AFNI
Email: mars@nautinst.org or MARS, c/o The Nautical Institute, 202 Lambeth Road, London SE1 7LQ, UK

The Nautical Institute gratefully acknowledges sponsorship provided by: