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Seaways

The International Journal of The Nautical Institute

Annual report

Tracking the NI's progress

The Nautical Institute

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Focus

The Institute's Work

> The Institute is in good shape with a growing membership, sound finances, an appropriate range of services and products for members and the wider industry as well as providing public benefit in terms of helping to improve the safety and efficiency of shipping operations.

As we travel the world and meet potential members as we did at the Sea Asia 2013 Exhibition in Singapore a couple of weeks ago, we are often asked 'What does the Institute do?' This question is easy enough to answer with our useful one liner 'We are the international representative body for maritime professionals with a focus on those involved in the control of sea-going ships,' but that usually leads to follow-up questions about what that means in practice.

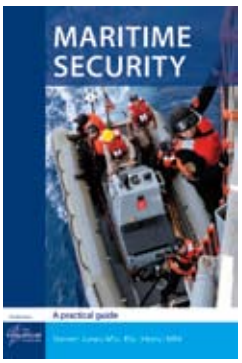
The much longer answer to these questions is set out in the Annual Report of the Institute which we always publish in the May issue of Seaways in readiness for the AGM which this year is on 31 May in Colombo. If you haven't registered to attend the AGM Event comprising a Seminar on 'Maritime Administration …. Where at, Where to', AGM and Cultural Evening, please do so via the dedicated website http://niagm2013.lk/. It will be well worthwhile attending.

The Annual Report of the Executive Board (the Trustees of the Institute as a charity – see pp 6-16) gets longer each year as the work of the Institute becomes even more extensive. Even so, it would take up the whole of *Seaways* if all aspects of the work during the year were covered. Nevertheless, it is a fairly comprehensive picture of the past year's achievements and challenges with indications of what still lies ahead. It should certainly show that the Institute is in good shape with a growing membership, sound finances, an appropriate range of services and products for members and the wider industry as well as providing public benefit in terms of helping to improve the safety and efficiency of shipping operations. For members who may not be particularly active in the Institute and still see *Seaways* as the primary benefit of membership, we hope that the Annual Report will convince you that the Institute is providing much more to you and all members, important though *Seaways* is. At the time of writing this piece, I can also advise that we have our first claim under the Legal Defence insurance cover on behalf of a member who has unfortunately found himself facing criminalisation due to an accident involving his ship. This is an important benefit which we had hoped would not need to be activated as it is also intended to have a deterrent aspect.

In addition to the Annual Report, there is also a good set of reports from the branch network of their valuable activities (see pp 30-32). The range of subjects covered in these meetings is impressive and it is a welcome feature that many of the branches are running joint meetings with other professional bodies such as IMarEST, CILT and RIN. These branch events are continuing professional development (CPD) in action and are also excellent networking opportunities. If you haven't been to one yet, you really are missing out on a useful and enjoyable experience that is worth making that small effort for.

There are of course many ways to be an active member, in addition to attending branch events, and it is good to see a surge in Letters to the Editor (see pp 33-35). Clearly there is still a great deal of interest in the magnetic compass and we will get the suggested special interest group going as soon as possible. There continues to be excellent discussions amongst our LinkedIn group, which now numbers over some 6500. One such discussion has been continued offline and is leading to a proposed initiative called Sea Drive (see pp26-27) which we will watch with interest. We remain open to proposals from this group through our normal governance processes as the subject matter is clearly an important part of the current Strategic Plan and it is likely that next year's Command seminar series will be themed on navigational competence. Bids from branches to be part of this series will be welcome.

It is again intended to hold the seminars in different regions of the world on a common theme so we will be looking to work with branches in areas with a strong representation of seafarers and/or ship managers. Please apply to me on cpw@nautinst.org.



Annual Report p 6

Mariners' Alerting and Reporting Scheme

MARS Report No. 247 May 2013

MARS 201324

Improper footing caused ankle injury

➔ The engineering crew was engaged in maintaining the starboard main engine from an adjacent work platform. A Job Safety Analysis (JSA) had been completed for this particular maintenance work. To better access parts and tools required to complete the work, the safety chains and stanchions were removed from the perimeter of the raised work platform, running along the engine side about half a metre above the deck plating. As the work was nearing completion, the Assistant Engineer, while facing the engine, hastily stepped back from the work platform and down to retrieve a part from the floor plates. In doing so, he inadvertently placed his left foot on the vertical flange of the angle iron frames holding the chequered plates. With almost his entire body weight resting on the heel of his left boot , which was supported on the edge of the angle iron, his footing slipped and his ankle rolled inward resulting in torn ligaments and a Lost Time Incident (LTI).

Root cause/contributory factors

1. Inadequate work direction/preparation/JSA. The full implications of removing the safety chains and stanchions were not fully discussed / considered;
2. The JSA and risk assessment conducted did not adequately identify slips, trips and fall hazards.

Corrective/preventative actions

1. Engineering Supervisor and Master reviewed vessel-specific JSAs and identified areas which required further dissemination – including the removal of safety barriers;
2. A special safety meeting was held aboard the vessel to discuss the incident;
3. Operations Department distributed a Fleet Safety stand-down order, reviewing the circumstances and requesting feedback from the fleet;
4. Subsequent to this report, a more detailed account with root causes and lessons learned was distributed. This incident was also reviewed in detail during weekly fleet teleconferences.

Official report

1. A thorough risk assessment exercise meant to identify additional hazards related to safety barriers, particularly in the engine room, was commenced on all vessels;
2. Engineering Department is also reviewing platform design for modification, including steps or removable tool stations for periodic maintenance.

Lessons learned

1. When removing safety fittings / barriers, special precautions and documented processes must be implemented;
2. It is the responsibility of both the supervisor and the employee together to carefully review all latent risks in any operation – especially those involving control of work processes;
3. Individual situational awareness cannot be over emphasised. Crewmembers must be alert for hazardous conditions and feel encouraged to report the same to their supervisor;
4. All crewmembers in an organisation must be given the authority and responsibility to speak up and stop unsafe operations.

Inboard Starboard Engine showing raised working platform and safety stanchions and chains

Re-enactment of mis-step and unstable footing

Another view of unstable and inadequate footing that resulted in the accident

MARS 201325

Cargo overflow

➔ Our vessel arrived at the discharge port with a cargo of Methyl Tertiary Butyl Ether (MTBE) with most of the cargo tanks loaded to 98% capacity. The cargo was split in two parcels and was to be discharged separately at same berth, using same manifold connection. On arrival cargo sampling was carried out. During cargo sampling the manual drop valves were opened and pump was started from the cargo control room at slow speed. After completion of sampling, deck crew shut the valves. On board this ship, all manual valves are tied with rope to indicate they are shut. The duty officer was instructed to carry out independent checks of all valves and lines on deck in order to confirm they were correctly set- up for discharge. Discharging commenced from No 7 port and starboard centre tanks with the chief officer and duty officer present in the cargo control room.

The cargo monitoring system indicated No 7 port centre tank low pressure alarm and the chief officer confirmed with deck crew that the vacuum side of the pressure vacuum (PV) valve for that tank was activated.

Following this, another audible alarm sounded and the chief officer assumed it to be the low pressure alarm of No 7 starboard centre tank. However, he failed to check the source of the second audible alarm.

Shortly afterwards the staff on deck informed the cargo control room that one of the PV valves on the forward group of PV stands was lifting. On hearing this, the chief officer immediately checked the status of pressure in forward cargo tanks. Simultaneously, those on deck informed the control room about an escape of cargo from the PV valve of No 1 stbd tank and immediately activated the emergency trip of the cargo pumps from the manifold position.

Contingency procedures as listed in the Shipboard Marine Pollution Emergency Plan (SMPEP) were implemented; using company approved PPE, ship staff collected the minor cargo leakage (about 400 litres) from the deck into anti-pollution drums. The cargo spillage was contained on board the vessel.

On completion of the clean-up operations, the chief officer and Master investigated the status of all lines and valves on deck. They noted that No 1 stbd tank drop valve was not fully shut, although a rope was tied to the valve wheel, indicating that it was fully shut.

Observations:

1. Prior to commencement of discharge operations, ship staff had opened all manifold valves on the cargo line of the MTBE cargo. This led to undue pressurising of cargo lines for all cargo tanks loaded with MTBE cargo and No 1 stbd tank filling up causing escape of cargo onto the deck through the PV Valve.
2. As No 1 stbd tank was at 98% full and at alarm level, no further alarm was generated in the control room indicating the filling of the tank.
3. The high pressure alarm from No 1 tank was overlooked by chief officer in the control room, assuming it to be the low pressure alarm from No 7 stbd.
4. The action of deck team at the manifold was correct; immediately activating the emergency stop.
5. After re-checking the complete cargo system, discharge operations were resumed with all standard Company and Industry procedures in place.

Root cause/contributory actions:

1. Human error: Crew member failed to close the drop valve of No 1 stbd tank correctly after completion of sampling.
2. Human error: Chief officer failed to correctly identify the source of audible alarm in cargo control room.
3. Incorrect Tanker Practice: Additional valves were opened up which were not required.
4. Incorrect Tanker Practice: failure to check physically the status of manual valves on deck.

Corrective actions taken:

1. On board in-depth investigations and analysis of incident. Incorrect shipboard cargo operations processes were identified and preventive actions implemented.
2. Training workshop in basic tanker safety held onboard with the deck staff.
3. Master has been advised to carry out in-depth tanker operation training using safety DVDs.
4. Ship staff advised to stop the incorrect practice of using ropes to 'visually' verify the status of manual valves on deck. They should always physically verify status (open/close) of manual valves and sight the valve indicators to double check the status.
5. Initial cargo line and valve set-up should be verified by chief officer independent of previous checks, as per company Chemical Tanker Manual.

MARS 201326

Damage by barge contact at anchor

➔ While anchored in a river anchorage awaiting a berth, the Master posted lookouts to deter barges from coming alongside the ship and peddling stores. However, the duty AB who was patrolling the poop deck was sent to the foc'sle deck to check and report on the anchor cable status. The OOW felt something make contact with the ship in the aft part and, rushing to the stbd bridge wing, he noted a barge manoeuvring around the stbd quarter. He informed the duty AB, Master and engineer.

The duty AB reached the poop deck and noted an unnamed barge moving away from the ship. He reported that he couldn't see any visible damage to ship side from the poop deck or within the steering gear flat. The engineer OOW reported that the stringer plating under the second platform in engineroom, on stbd side was deformed/ buckled including attached brackets, but the ship side was intact and there was no water ingress.

The ship manager arranged for a Class Surveyor to attend the ship and carry out a survey, and a Condition of Class was imposed requiring permanent repairs to be carried out.

Root cause/contributory actions:

Immediate Cause: Inadequate guards or barrier

1. Uncontrolled movement of barges in the river. The port does not have clear guidance/rules for movement of such barges.
2. Steps taken to prevent approach of unwanted barges to ship were not adequate.

Basic Cause: Lack of experience

1. Crew member was sent forward to check anchor cable, without assessing whether it was safe to do so.

Inadequate leadership and supervision:

1. Improper risk assessment before sending the crew member who was keeping watch for unwanted barges to the forecastle.
2. Failure to provide alternative arrangement before assigning a new job to crew member.

Review of emergency response:

Failure to record the description of barge and take photographs – company-provided intrinsically safe camera was not available for immediate use.

Visit www.nautinst.org/MARS for online database

Actions taken:

1. Master installed double deck watch to keep the barges away from own ship.
2. Pilot, (who was onboard), was informed by Master.
3. Master tried calling VTS and Harbour Master on VHF to report the incident, but no reply received from either party.
4. Letter of Protest was issued by Master to Port Authorities.

Action within fleet

Staying at anchor in a river to be considered as considerable risk and Masters to carry out risk assessment prior to anchoring in river.

MARS 201327

Lifebuoys in storage at sea

I recently took over a ship. As with every ship I join, I asked the 3rd officer 'I hope you don't place the lifebuoys in stores at sea?' The answer was 'Yes sir, we were instructed by the Master to place them in the stores during a loaded passage'.

The vessel was in port and the company's QHSE superintendent was also on board for an audit. This was also included in the Audit Findings. We had a safety meeting immediately and the hazards associated with this practice were discussed. All those present at the meeting understood the wrong practice, but never spoke against it. It was also noted that a number of seamen / officers present at the meeting had experienced this practice in the recent past but were scared to go against the Master's orders or even suggest doing so! This is the third ship in three years where I have found this practice. I wonder how many others there are.

All these ships have had locking pins to secure the lifebuoy in the cradle and ensure it remains in place in case of shipping seas. A securing pin arrangement can easily be fabricated / welded if necessary. However, the lifebuoys need to be in place, whether or not there is a locking pin.

MARS 201328

Gas cylinders in cargo operations area

A vessel was discharging steel plates at our port, and passing the plates over many gas bottles which were on deck. There is always a slight chance that the cargo of steel plates can fall on the deck due to breakage of sling/crane wire. The consequences of these plates falling on top of these gas cylinders could be an explosion, followed by fire etc.

Discharging operations from that hold were stopped immediately and the bottles were removed. Discharging was only resumed when all the bottles were removed from cargo operation area.

MARS 201329

Failed luggage disembarkation

Vessel was in a congested anchorage with a strong current. A launch arrived to pick up disembarking crew of 10 persons who were leaving the vessel by pilot ladder (with combination of gangway) which was the only convenient means under the circumstances.

After picking up the crew, the boat shifted aft to pick up crews' luggage which had already been placed on a cargo net on the provision crane. The bosun, who was in charge of operation, lowered the cargo net to the boat.

As the crew unloaded their luggage, the fierce current and the weight of the cargo net caused the boat to swing and broach to the current. The boat skipper increased the speed of the engine to hold position but the boat drifted further away. The cargo net, still hooked on the crane, began to slide down to the sea and most of the luggage was dipped and soaked in water before the bosun could heave the cargo net out of sea.

It took almost 10 minutes for the skipper to bring the boat alongside again.

The second attempt was successful and crew were able to retrieve all their wet luggage. However, before the empty cargo net was lifted clear of the boat, the frustrated skipper engaged full throttle on the engine control. It was very fortunate that the cargo net slithered clear of the deck to the sea, still hooked on the provision crane. Had the net snagged on either the boat or the crew, the consequences could have been fatal.

Observations

1. Skipper was not competent to handle the boat under fierce current, which was very common at that particular anchorage.
2. When cargo net was lowered on to the aft deck of such a small boat, it caused sudden change of trim and broaching of boat.
3. Boat's bow should have been secured to the ship's deck by a painter to avoid broaching.
4. Before unloading luggage, crew should have released the net from hook completely.
5. Skipper's judgement to push ahead the engine was an error.
6. Someone on the boat must have given the skipper a misleading signal as the cargo net was still lying on the aft deck.
7. Unpredicted occurrences caused rush and commotion on the boat.

MARS 201330

Pressure switch location for fire suppression systems

(Source USCG Marine Safety Alert 05-12)

This safety alert addresses the location of fire suppression system pressure switches aboard vessels.

These critical components sense the activation of the system and then electrically secure the ventilation systems operating in the protected space. Securing the ventilation is essential in extinguishing a fire onboard a vessel. It assists in isolating the fire within the space, minimises the introduction of additional oxygen to fuel the fire and prevents the loss of fire suppression agents from the space.

Recently, a vessel with an installed fixed CO_2 fire suppression system suffered extensive damage due to a fire that started in the engine room. During the firefighting efforts, the crew reported that the engine room ventilation could not be secured. A post-casualty damage survey of the vessel revealed that the pressure switch used to secure the ventilation

was located within the engine room [see photographs of the damaged pressure switch and new switch.]

The Coast Guard *strongly reminds* owners and operators of vessels with installed fixed fire suppression systems to ensure that these switches are properly located aboard their vessels. If the pressure switch or switches are located within the space being protected, they should be relocated by a properly trained fire suppression service technician. Doing so will assist in ensuring system functionality and accessibility in the event of an emergency. Failing to do so could have serious consequences to the vessel, its crew and the environment.

For the full safety alert go to http://www.uscg.mil/hq/cg5/TVNCOE/Documents/SafetyAlerts/PressureSwitch.pdf

FEEDBACK TO MARS 201235

Anchor cable rendered in severe gale

I wish to add a further comment:

Classification Societies typically state the following (GL in this case):

1. The anchoring equipment is intended for temporary mooring of a vessel within a harbour or sheltered area when the vessel is awaiting berth, tide, etc. The equipment is, therefore, not designed to hold a ship off fully exposed coasts in rough weather or to stop a ship which is moving or drifting. In this condition the loads on the anchoring equipment increase to such a degree that its components may be damaged or lost owing to the high energy forces generated, particularly in large ships.
2. The anchoring equipment is designed to hold a ship in good holding ground in conditions such as to avoid dragging of the anchor. In poor holding ground the holding power of the anchors will be significantly reduced.
3. The equipment numeral formula for anchoring equipment is based on an assumed current speed of 2.5 m/sec (approx. 5 knots), wind speed of 25 m/sec (approx. 50 knots) and a scope of chain cable between 6 and 10, the scope being the ratio between length of chain paid out and water depth.
4. It is assumed that under normal circumstances a ship will use only one bow anchor and chain cable at a time.

Readers must not assume that the anchor equipment will hold the vessel without damage in any state of wind and current.