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WEBSITE CONTENT AND RESOURCES

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TNPA AND OHS FEATURED RULES



FEATURED PORT RULE: RULE 85- ENVIRONMENTAL PROTECTION

All persons within a port must take all reasonable steps to prevent minimise and mitigate pollution or damage to or degradation of the environment.

Any person who pollutes or causes damage to the environment will bear the costs associated with the combating and cleaning up of that pollution, damage or degradation, and the associated impacts relating thereto.

If the person or persons responsible for the pollution or damage to the environment fail to take the necessary measures to prevent, minimize, mitigate, combat and clean up the pollution or damage to the environment, including its associated impacts, the Authority may take the necessary measures.

The person or persons who caused the pollution or damage to the environment will be liable for the costs associated with the pollution, damage or degradation to the environment, its associated impacts and any mitigating measures.



FEATURED OHS PROVISION: SECTION 12- EMPLOYERS DUTIES

Every employer shall, after consultation with the health and safety committee established for that workplace:

- Identify the hazards and evaluate the risks associated with such work constituting a hazard to the health of such employees, and the steps that need to be taken to comply with the provisions of this Act.
- As far as is reasonably practicable, prevent the exposure of such employees to the hazards concerned or, where prevention is not reasonably practicable, minimize such exposure.
- Having regard to the nature of the risk associated with such work and the level of exposure of such employees to the hazards, carry out an occupational hygiene programme and biological monitoring, and subject such employees to medical surveillance.
- Keep the health and safety representatives designated for their workplaces or sections of the workplaces, informed of the actions taken above and of the results of such actions.
- Provided that individual results of biological monitoring and medical surveillance relating to the work of the employee, shall only with the written consent of such employee be made available to any person other than an inspector, the employer or the employee concerned.





INCIDENT REPORTS

1. Fall From Height in Confined Space- Fatality

FACTS

A member has reported an incident in which a crewman died after falling in a confined space onboard a vessel. A ballast tank was open for steel repairs; a Permit to Work (PTW) was in place for the repairs but was not made specific in mentioning that the repairs would require confined space entry for a gas test initially. Gas tests were seen as routine and not requiring a PTW. The incident occurred during an air quality verification using gas detectors in the tank. A tank or manhole watchman was present, and three persons entered the tank and began to climb down the 11m tank ladder.

The checks were performed and the three persons began to climb out of the tank. The last person climbing up had the gas detector in front of him on a band around his neck; the detector was attached to a rope on his back. The gas detector got stuck between him and the ladder when he was nearly at the top.

He tried to free himself but lost his grip and fell 10m to the bottom of the tank, sustaining serious internal injuries. He was extricated from the ballast tank and subsequently air lifted to hospital by helicopter but died on the way.

AN INVESTIGATION REVEALED THE FOLLOWING CAUSAL FACTORS:

- The position of the gas meter being carried around the neck of the deceased whilst climbing the ladder was noted as a causal factor; the position of the gas meter was not recognized as a risk or hazard.
- Absence of fall protection equipment even though the existing Job Safety Analysis (JSA) for entering a confined space makes mention of the need for fall protection equipment. This requirement was however not discussed at the toolbox meeting prior to the job starting. Also, the PTW just mentioned repairs generally and not the need for entry into a confined space to test the air quality or potential fall hazards being involved. This meant that the persons involved were not reminded about the recommendation for fall protection.
- The gas measurements in confined spaces were considered routine, whereby the need for a PTW and identification of associated risk/ hazards were overlooked.
- Inadequate monitoring of compliance – the confined space had been open for over a week; multiple activities had taken place, with PTW's in that time, but nobody had recognized the absence of the fall protection (inertia reels) as described in an existing JSA.
- Failure to follow rules and regulations – two key company rules were not followed:
 - The requirement to issue a PTW for the gas measurement and inspection activity in tanks; and
 - Existing company procedures for working in confined spaces.
- Organization – the casualty was performing safety officer duties for which he did not have the relevant formal training and competence.
- Existing procedures or instructions were not adequate and did not identify requirements for descending and ascending into tanks.

THE REPORTING PARTY CONCLUDED THAT THE FOLLOWING SAFETY BARRIERS WERE BREACHED:

- Complacency in properly executing safety procedures;
- Failure to follow procedures;
- Not recognizing hazards and risks associated with the job; and
- Insufficient training and instructions.





THE FOLLOWING RECOMMENDATIONS AND CORRECTIVE ACTIONS WERE MADE:

- No equipment to be carried by hand or other means which impacts safe climbing on ladders;
- Company procedures to provide clarity with regard to maximum length of ladders and fall protection to be used;
- Preventive safety equipment to be used for climbing on ladders;
- Appropriate anchor points to be determined or made;
- Safety harnesses (lanyards and shock absorber) and inertia reels to be used;
- Preventive measures to be taken while working in confined spaces;
- Escape route should be determined and prepared before job starts;
- Rescue equipment should be readily available at confined spaces in which work is being done;
- Helicopter evacuation procedure should be improved;
- Communication in emergency situations to be reviewed and improved, along with an increase of on board emergency training related to confined spaces; and
- Work assessment/ risk assessment to be done prior to start of onboard repair and maintenance jobs.

2. Damaged Electrical Cord Results in Electrocution- Fatality

FACTS

A fatal incident in which a person was electrocuted was reported. A rig sub-contractor suffered fatal injuries from electrical shock whilst performing a welding operation.

A lamp used to illuminate the worksite was found to be the potential source of electrical shock as the lamp's electrical cord was found to have been damaged.

The damage may have been caused by a pinching action of the cord between the loose mounting bracket of the light and the light housing which was observed to be in contact with the victim's body.



AN INVESTIGATION REVEALED THE FOLLOWING:

- A ground fault circuit interrupter (GFCI) was not utilised and the circuit breaker failed to trip during the incident;
- The lamp used was designed for permanent exterior mounting and had been modified for use as an interior portable illumination source;
- Sub-contractor personnel had not been effectively supervised;
- An effective pre-job (pre-start) safety discussion had not taken place;
- The approved job safety analysis (JSA) overlooked the potential for electric shock hazards and for cord damage and did not address the actual work that was performed;
- Confined space entry was not considered or included in permits; and
- The hot work permit review process was not effective.

THE FOLLOWING RECOMMENDATIONS AND CORRECTIVE ACTIONS WERE MADE:

- When using portable electric tools in potentially damp areas, a GFCI (fixed or portable) should be utilised to protect personnel from potential electrical shock;
- All tools and equipment should only be used for their intended and manufacturer's recommended purpose; any change to a tool or equipment's intended purpose should be thoroughly reviewed and approved through an effective management of change process;





- An effective pre-start meeting should be held with the personnel performing the work to ensure that all hazards have been identified, proper tools are being utilised and the job scope is well defined and understood. The supervisor in charge of the worksite should be responsible for having this meeting. A field review of the work site should be part of this meeting;
- JSAs should be specific to the job being performed. JSAs should focus on the steps taken to accomplish the task rather than generalised statements that cover a wide range of activities. JSAs should focus on hazard identification and mitigations for each hazard; and
- Established procedures for issuing and approving general work permits, hot work permits, and confined space entry permits should be rigorously followed to ensure necessary steps have been taken to minimise risk of injury, including a survey of the work site by the person in charge.

3. Circular Saw Incident Leads to Loss of Thumb- Lost Time Injury

FACTS

An incident was reported in which a crewman cut off the top of his thumb and his middle finger whilst working with a circular table top bench saw onboard a vessel. The incident occurred when the crewman was cutting 5mm thick plywood with the circular saw in order to make shelving for other plywood pieces. The plywood was laid flat on the bench with the injured person's hands laid flat on top of the plywood, but the plywood snagged and dragged the crewman's right hand towards the spinning blade. The injured person was medivaced ashore by helicopter in a timely manner after immediate first aid onboard had been administered. The surgeons at the local hospital managed to reattach the middle finger but the top of the thumb was lost.



AN INVESTIGATION REVEALED THE FOLLOWING:

- No risk assessment had been conducted for the operation;
- The equipment was incorrectly set up and incorrectly operated by the injured person, though he stated that he was familiar with the operation of the equipment;
- The bench saw was supplied on board with the necessary safety equipment and full instructions for its safe operation. These instructions included reference to the use of the safety guard, a special tool for pushing the wood through, and the requirement to set the cutting blade to the correct level in accordance with the thickness of the wood that was being cut;
- The instruction manual appeared not to have been available at the workplace and the safety requirements for the safe operation of the saw were either not fully understood or were disregarded;
- There was no guard fitted to the circular saw blade.

THE FOLLOWING RECOMMENDATIONS AND CORRECTIVE ACTIONS WERE MADE:

- All power tools have the potential to cause serious injury if they are operated incorrectly and without the manufacturers' approved and fitted safety devices;
- A risk assessment must be completed and filed prior to using any power tool. The assessment must take into consideration the following:
 - the competence of the persons using the equipment;
 - the condition of the equipment being used;
 - the provision and proper functioning of adequate safety guards and cut-out devices such as emergency stops and barriers;





- general working environmental conditions such as lighting; and
- availability and condition of any personal protective equipment.
- Guards must always be fitted to equipment when designed to have them in place during operations;
- Power equipment should be operated in accordance with the procedures and rules set for their safe use;
- Full training, manuals and instructions should be available, and manuals and instructions should always be read and fully understood by even experienced operators; and
- Complacency is a serious issue to be guarded against, especially in experienced personnel.

4. Small Fire Leads to Injury During Gas Cutting Operation- Medical Treatment Case

FACTS

A member has reported an incident in which a small fire caused a minor injury during the use of oxyacetylene cutting equipment. The incident occurred when a welder was using the equipment to cut a piece of steel plate on the deck of the vessel. When the oxygen ran out the welder attached the regulator to a full bottle of oxygen. On reigniting the gas, the oxygen failed to reach the flame. As the welder was attempting to diagnose the fault, the oxygen hose detached from the burner. There was a fire which burned through the leg of his overall and burned his thigh.

The fire watcher reacted promptly and switched off the gases at the bottles. This action quickly extinguished the fire and prevented any escalation. The welder was taken to a local hospital where his injuries were found to be minor and after treatment he was allowed back to work. His injuries could easily have been more serious.



AN INVESTIGATION REVEALED THE FOLLOWING:

- The gas hoses were attached to the burner at check valves with crimped fittings;
- The oxygen check valve was damaged by the effects of the fire;
- The acetylene check valve was still connected to the hose. When the hose was removed it was found to have a deep score across the fitting (see image above). The damage was consistent with the blade of a hacksaw. It appears to have been caused when the hoses were being re-terminated. It was assumed that the oxygen fitting had similar damage which had added to the likelihood of its failure causing the gas release and fire;
- The equipment had been inspected and passed as fit for use by an external agency three weeks prior to the accident. The equipment was only inspected visually and the hoses were not removed to examine the fittings;
- The welder was wearing standard coveralls which were not sufficient to withstand the effects of the fire. He was wearing nylon jogging trousers under his coveralls which melted and added to his injuries; and
- It was noted that there was no specific procedure for the connection of regulators to gas bottles, maintenance of the cutting equipment or for the re-termination of the hoses.

THE FOLLOWING RECOMMENDATIONS AND CORRECTIVE ACTIONS WERE MADE:

- The burning equipment was replaced;
- Instructions were included so that when re-termination takes place, the check valve fittings should be replaced with new fitting; and
- Welders are now required to wear protective overalls appropriate to their work and additional training for welders was provided.



ARTICLES***If It Was Any Closer, It Would Have Killed***

Click bait title, I know, but it's completely accurate. We'll start with the interesting stuff first, but this is about a near miss; a very close near miss and how the failure to report it, or the cover-up to be more accurate, almost resulted in a fatality a few days later. The details will be kept anonymous but the lessons that can be drawn from it are no less impactful.

A large vessel is in port for repair and maintenance works. As agreed upon during project start-up, certain vessel operations would be run solely under the control of the vessel's permit system and would be handled by their staff completely, with no involvement from the project management team. During a late Saturday evening, the vessel's night shift rigging crew are tasked with removing a 350-ton piece of equipment from the main deck to the quayside.

The rigging is set up and the item is slowly lifted up by the vessels enormous crane, when a separate engineering supervisor from the vessel notices that there is an issue with the main shackle. The shackle the onboard rigging supervisor and his crew mistakenly used, was a 250-ton shackle.

At this stage the load was approximately 5m above the main deck. One can only imagine what the resulting damage event would have looked like had there been a catastrophic failure. The supervisor who noted the issue immediately informed the rigging crew to place the load down back in its original position and they attended to changing out the shackle.

Now of course shackles are designed with a safety factor but within the definition of what is deemed a near miss, this quite clearly is one; a serious one that could have had catastrophic consequences.

Further agreed before the project started, any incidents from any personnel would be shared immediately between the vessel crew, the project management team and all subcontractors so that lessons learnt could be communicated and a repeat incident could be avoided. Unfortunately, this information was intentionally withheld from the project management team which meant none of this could be communicated.

Fast forward to Tuesday morning. Rumours start floating around that eventually reach the project management team, that there may have been a serious near miss incident during Saturday evening. The approach for dealing with the subsequent enquiry is discussed amongst the project team just before a daily 9am project meeting. It's decided that directly after the meeting, it would need to be taken up with the captain and vessel's safety manager.

A few minutes before the end of the meeting, a call goes out on the radio that an employee from one of the local subcontractors, has been struck by a falling shackle and is being attended to by the on-site paramedics in the clinic. On arrival the project HSE team piece together what took place. At this stage, all that can be determined is that he was standing close to the gangway when all of a sudden, he felt something graze the front of his right shoulder, strike the top of his hand and he felt it hit into the steel tip of his boot. He believes it was a shackle but it hit his boot with such force that it ricocheted away from the area.

The team leaves the clinic to allow the paramedics to continue their assessment of his injuries and goes to the site of the incident to try put together what happened. On arrival, two impact marks are left in the quayside asphalt; determined to be from the bolt and nut of the shackle. The shackle is brought by another employee to the HSE team; a 1.5kg, 5-ton shackle. Further, the HSE team goes to speak to the vessel rigging crew who were operating the crane just before the incident. Oddly, they have brought the hook down to ground level and are seen putting safety pins in all the shackles that are still connected to the hook with soft slings.

As it turns out the rigging operations planned for the morning were halted due to excessive winds but the gear had remained suspended on the hook, 60m above the ground (give or take the length of the slings). It was quite apparent that they had failed to put back the safety pin when abandoning their task due to the wind, and were now hoping to quickly hide that fact. The eventual cause determined was that the nut was likely loosely screwed back on without the safety pin, and as a result of the wind, slowly came undone, resulting in the shackle falling off the sling.



Now let's imagine for a moment that we could go back to Saturday night's incident. What should have happened?

- The operation (and likely all high-risk rigging) would have been halted in its entirety for the near miss to be investigated fully.
- The vessel rigging team would have been interviewed to provide statements.
- The investigation would have been conducted fully with the cooperation of the project team.
- Once findings were determined and the investigation was complete a site stand-down would have been held with all persons to communicate the incident and corrective actions.
- Necessary internal disciplinary actions would have been taken with the persons involved.
- Rigging operations would have scrutinized.
- The chance that a safety pin would have been left off of the shackle would be significantly less.

It was clear that a sense of complacency had set in amongst the rigging team. Without formal procedures being followed like an investigation and subsequent disciplinary action, that complacency and lack of control would persist; and to the point where it almost killed someone a few days later. It was a matter of a few inches.

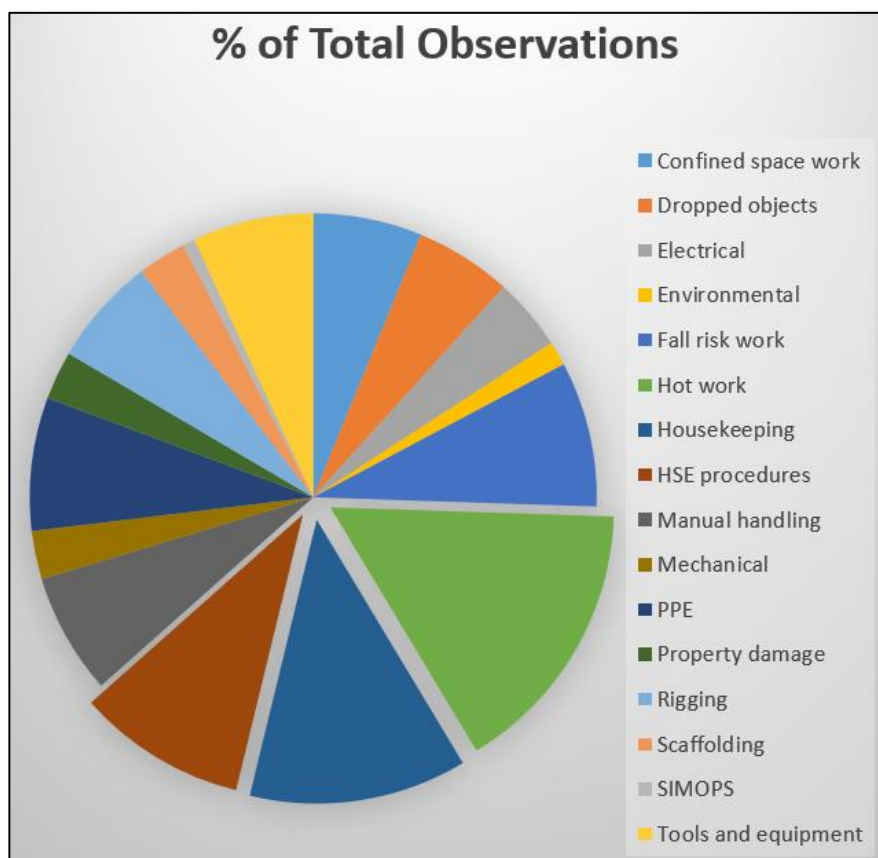
Stand up straight and think about how close an awkwardly shaped 5-ton shackle has to be to your head, to graze your shoulder and put a sizeable dent into your steel toe boot. Luckily it only resulted in some bruising to his wrist, but the scene would have looked very different if he'd been a few inches to the right.

Reporting near miss events is absolutely vital and potentially lifesaving in some cases. Encourage the reporting of these events throughout every level of your organisation.

Mark Fiandeiro, 29 January 2018
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HSE STATISTICS FOR JANUARY 2018

Observation Category	Jan '18
	% of Total Observations
Confined spaces	6%
Dropped objects	6%
Electrical	4%
Environmental	1%
Fall risk work	8%
Hot work	16%
Housekeeping	12%
HSE procedures	10%
Manual handling	7%
Mechanical	3%
PPE	8%
Property damage	3%
Rigging	6%
Scaffolding	3%
SIMOPS	1%
Tools and equipment	7%
Total	100%



CAPE TOWN WATER CRISIS UPDATE

The water shortage crisis in Cape Town has unfortunately not improved. **As of the 1st of February 2018, Level 6B water restrictions will apply, which will mean the following:**

- 1) Agricultural users must reduce consumption by 60%, compared to usage levels from 2015.
- 2) Borehole water use is discouraged, as it takes away vital resources for groundwater reclamation projects.
- 3) Cape Town's daily water usage target has dropped to 450 million litres a day.
- 4) Day zero is now 'likely' to happen, scheduled for 21 April 2018.
- 5) Over 200 water collection points will be set up in the municipality in preparation for the taps being shut off. Residents will have to queue up to receive an allocation of 25 litres of water per person, per day.
- 6) No filling up of any pools whatsoever. That includes portable (inflatable) ones.
- 7) Washing cars with municipal drinking water is strictly forbidden. Greywater and collected rainwater are the only sources allowed.
- 8) Heavy water consumers will face penalties. Households using more than 6,000 litres a month can expect to face punitive measures:

Consumption per month	Current tariffs - total household water bill	New tariff - total household water bill
6 000 litres	R28.44	R145.98
10 500 litres	R109.50	R390.82
20 000 litres	R361.06	R1 536.28
35 000 litres	R1 050.04	R6 939.57
50 000 litres	R2 888.81	R20 619.57

- 9) The target of 50 litres per day, per person will be in effect for 150 days from February 01 onwards. This will be reassessed on 27 June 2018, when potential restrictions could be lifted.

For a more indepth review and statistics, click [here](#) to download the latest Water Dashboard issued on the 22nd of January 2018 by the City of Cape Town.

2018 BUYERS GUIDE (NEW FEATURE FOR EDITION 02/18)

MARINE HSE provides the first ever marine construction learning and resource base in South Africa and is committed to the development and promotion of our local industry, to showcase South Africa as an international player in marine construction. Further, **MARINE HSE** aims to promote local companies and contractors, by providing a platform for them to showcase their products and services in the **MARINE HSE BUYERS GUIDE** listed in the back of all monthly Safety Briefs.

Every month the Safety Briefs reach a growing number of over 1200 local marine and industrial businesses, affiliates, contractors and industry professionals.

Listed companies will receive the following in the **BUYERS GUIDE**:

- Company name;
- Company logo (electronically linked to their webpage);
- Core business services;
- Main business address;
- Main contact number;
- Email address (electronically linked); and
- Webpage address (electronically linked).



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