Samundra Spirit

QUARTERLY IN-HOUSE MAGAZINE FOR SAMUNDRA INSTITUTE OF MARITIME STUDIES (SIMS), MUMBAI & LONAVALA

OCT 2010 . ISSUE 11

In this issue:


Page 05


Page 13


Page 23

JOIN the MERCHANT NAVY!

SAMUNDRA INSTITUTE OF MARITIME STUDIES (SIMS)

A Training Commitment of Executive Ship Management Pte Ltd (ESM), Singapore
(Certified by leading maritime classification society, Det Norske Veritas, Norway for ISO 9001:2008)

INVITES APPLICATION FOR -

- **DECK CADETS (DNS) - FEB 2011 BATCH**
  Approved under Indian Maritime University (IMU), Directorate General of Shipping Govt. of India & Maritime Port Authority (MPA), Singapore
- **4-YEAR B. TECH. (MARINE ENGINEERING) - AUG 2011 BATCH**
  Under in principle approval from Indian Maritime University (IMU) and Letter of intent by Directorate General of Shipping Government of India
- **1-YEAR GRADUATE MARINE ENGINEERING (GME) - SEP 2011 BATCH**
  Approved under Directorate General of Shipping Govt. of India & Maritime Port Authority (MPA), Singapore

DECK CADETS (DNS)

- One year Diploma in Nautical Science at SIMS, Lonavala.
- Minimum 18 months of practical shipboard training before 2nd Mate's examination.

4-YEAR B. TECH. (MARINE ENGINEERING)

- Four years Marine Engineering course at SIMS, Lonavala.
- Followed by 6 months shipboard training before appearing for Class IV examination.

GRADUATE MARINE ENGINEERS (GME)

- One year training in Marine Engineering at SIMS, Lonavala which includes 6 months hands-on practical training in the **Ship-in-Campus**.
- 6 months shipboard training before appearing for Class IV examination.

Eligibility	DNS	B. Tech. (Marine Engineering)	GME
Age & Marital Status	• Not more than 20 years for **10+2** candidates, 22 years for **B.Sc** candidates, 25 years for **B.E/ B.Tech** candidates as on date of joining • Unmarried	• Not more than 20 years as on date of joining • Unmarried	• Not more than 25 years as on date of joining • Unmarried
Academic (Results must be obtained at 1st attempt)	**All Board (Class XII):** Minimum Av Score - 60%, PCM Minimum - 60% **OR** **B.Sc** - Physics / Chemistry / Maths / Electronics with min of 55% in final year along with min of 55% in PCM during Class XII **OR** **B.E/B.Tech** - Any stream from an **AICTE/UGC** approved institute	Passed in 10+2 or equivalent exam with Physics, Chemistry, Mathematics and English as separate subjects with PCM average of not less than 60%	Degree in **B.E/B.Tech (Mechanical / Naval Architecture)** from an **AICTE** approved institute, **Deemed University** with min marks of 55% in final year
Language	English shall be one of the subjects with min marks scored of 50% in Class X or XII	English shall be one of the subjects with min marks scored of 50% in Class X or XII	English shall be one of the subjects with min marks scored of 50% in Class X or XII
Eyesight	6/6 vision, no colour blindness, no use of corrective lenses allowed	No colour blindness, use of corrective lenses permitted	No colour blindness, use of corrective lenses permitted

** Approved Educational Loans from HDFC, SBI & Nationalised Banks available! * Scholarships available basis SIMS entrance test and first semester results.*

"100% placement on ESM managed vessels upon successful completion of the course"

For more information on what we have to offer and downloading the application form, please visit our website at **www.samundra.com** or contact us at the following:

Email ▶ admission.sims@samundra.com | **Tel** ▶ **MUMBAI**: 022-67993545, **LONAVALA**: 02114-399500, **DELHI**: 011-29562775/6/8, **CHANDIGARH**: 0172-2600417/4615417, **CHENNAI**: 044-28143550/51, **COCHIN**: 0484-3259591/3219591, **KOLKATA**: 033-32520777/40084577 **DEHRADUN**: 0135-2751827, **PATNA**: 0612-2532124/6530634, **GUWAHATI**: 09678061342.

Samundra Spirit

OCT 2010 ISSUE 11

Background of cover picture - Joyous Cadets passing out.

Contents

Samundra Spirit
OCTOBER 2010 ISSUE 11

www.samundra.com

Address:
SIMS, LONAVALA
Village Takwe Khurd,
Mumbai-Pune Highway (NH4), Lonavala, Dist. Pune, Maharashtra, Pin 410405, India
Tel: + 91 2114 399 500
Fax: + 91 2114 399 600

Address:
SIMS, MUMBAI
5th Floor, Sai Commercial Building
BKS Devshi Marg, Govandi Station Road,
Govandi East Mumbai, PIN- 400088 India
Tel: + 91 22 6799 3545
Fax: + 91 22 6799 3546

SAMUNDRA SPIRIT is a quarterly in-house magazine produced by Samundra Institute of Maritime Studies (SIMS) for private circulation.

Our Editorial Team wants to hear from you!

If you wish to submit any feedbacks and/or contributions, feel free to write to the Editor at: samundraspirit@samundra.com

**Please note we reserve the right to publish your letters/articles or an edited version of it in all print & electronic media.*

EDITORIAL NOTE

"No mirror ever became iron again; No bread ever became wheat; No ripened grape ever became sour fruit. Mature yourself and be secure from a change for the worse. Become the light."

- Rumi (Thirteenth century Persian poet)

It gives me immense pleasure to put together yet another issue of the Samundra spirit - which happens to be the final issue for the year 2010.

We have a wide spectrum of articles - with topics ranging from the highly technical, Very large Refrigerated Gas Tanker (VLGC) to revisiting memory of a missile hit merchant navy ship. While we have a grand father's story of rescue from the burning passenger ship, the technical paper from the engineering cadets tells us about the new technological advancement in the industry. The new Maritime Labour Convention (MLC2006) is another relevant topic which throws light on what's coming up in the near future, as it affects the seafarers as well as those associated with the ship's day to day running. Environment remains a topic of concern as always and we have an interesting article on the clean energy source, LNG from our visiting Engineering consultant. Articles on Chemical Tanker loading and Commercial Operation are excellent introduction to the two complicated subjects made simple by two articulate and knowledgeable experts from the ESM shore team.

We are indeed extremely pleased and privileged to see such contributions from the veterans from Executive ship management and the faculty members from SIMS. They are all fantastic sources of original thinking and writings as well as an invaluable source of information and knowledge for the upcoming generation of mariners. We are indebted to our contributors and salute their generous spirit to share their expertise and experience through this magazine.

The regular pieces including the contributions from the cadets, reports on their triumph and achievements along with the campus news are all in place. The passing out of the cadets is both a proud and poignant moment for the faculty and the staff each year and we are happy to include these memorable events in the pages of Samundra Spirit with as many pictures as possible.

Finally, we do hope the cadets who pass out of the gate of Samundra Institute of Maritime Studies would not only step out as confident marine officers and engineers but will also mature themselves as beacons of expertise for the industry in years to come. The training in SIMS is intended to impart that extra special zing into our cadets that would propel them to another sphere of learning and development which is required to bring in the success and growth for not only at an individual level but to that of the organization and the industry as a whole.

Spirit of Samundra (Ocean) is always about sharing and growing together. SIMS imbibes the same and the products of SIMS are groomed to be the ones to spread the same message as they step into the industry now and turn into tomorrow's leaders in their thoughts and deeds. That would be the real success of SIMS and the people behind SIMS.

Hope you would enjoy reading this issue as much as I enjoyed editing.

Happy Deewali and safe sailing!

Sikha Singh

Message from Mr. S. Venkiteswaran

S. VENKITESWARAN
SENIOR ADVOCATE

114, MAKER CHAMBERS III,
NARIMAN POINT, MUMBAI - 400 021.
TEL. : 2285 2789 / 92 / 2283 6972
FAX : 91-22-2285 2086
E-mail : s_venky@vsnl.com

October 13, 2010.

Samundra Institute of Maritime Studies
Mumbai, Lonavala

Dear Friends,

I must tell you that I extremely enjoy my association with Samundra Institute of Maritime Studies. In fact, when I was asked to join the Governing Council of the institute, I did not hesitate even for a moment because I really believed that Samundra is the best private maritime training institute in India, and one of the best in the world. I can assure you that I have been to many institutes, including the World Maritime University, and I am proud to say that ours can rank as one of the best.

Mr. Teeka is an extremely good task master and an equally strict disciplinarian. He never minces words, and he is very blunt and clear. Both Mr. Teeka and Mrs. Sikha Singh take so much personal care in every matter. For them, it is "quality" that is important than anything else.

Mr. Teeka has also roped in a number of important personnel from the maritime and education fields to his Governing Council, to get the best advantage.

I have always enjoyed attending these meetings, for I found them as lively and effective as Mr. and Mrs. Teeka.

My thanks to both of them for permitting to associate with their good efforts, and I wish them and the institute greater and greater laurels.

With regards

S. VENKITESWARAN

Mr. S. Venkiteswaran
Member Governing Council, SIMS

Blast from Past (Part II)

Braving Missile Attack by Iraqi Warplanes

Sinking of Al Ahood

Al Ahood in flames

Damage caused by the Iraqi Exocet missile

Capt. Arun Sundaram
General Manager
ESM, Singapore

Here's the second part of one of the most engrossing human interest story that occurred on board a merchant navy ship hit by a war missile in the middle east. Capt. Arun Sundaram, a part of the salvaging team representing the owners, warns that the idea of the story is not to recount history but to elucidate the indomitable spirit of seafarers that survived and triumphed over the tragedy.

Al Ahood had just sailed out of Kharg Island after loading a cargo of about 114,000 Iranian crude oil and most of the officers and crew were happily engrossed in their dinner after squaring up things post sailing. The children on the ship were relishing hitting shots in their serious game of ping pong in the smoke room. The plan by the off-duty officers and crew was to watch a movie after dinner and celebrate another successful loading. Soon the ship was to exit out of Hormuz and things would settle down to a familiar routine and pattern.

However, destiny had a different plan in place…Forks and the spoons hung halfway when, a huge thud broke the happy banters and shook up everyone around the dining tables and elsewhere. The crash seemed to have come from the after portion of ship which was immediately followed by a total blackout. Chief Engineer Balbir Chhabra immediately pushed back his chair and rushed towards the engine room to see as to what had gone wrong and why the diesel generators tripped. In view of the darkness, he proceeded towards the emergency generator room to start the generator before making his way in the engine room.

As the Chief Engineer rushed out of the accommodation and climbed the steel ladders outside the accommodation on the starboard (stbd) side striding towards the emergency generator room, he noticed a missile whizzing in and disappearing into the starboard Fuel Oil tank. He was stopped in his tracks by hot burning oil spewing out from the starboard heavy oil tank. Involuntary he ducked and found himself falling facedown on to the deck safeguarding his face. He felt the searing heat and some of sizzling hot oil sprays raining onto his back, hands and neck and seeping through his clothes into flesh burning and scalding all over his body.

Notwithstanding his burns, as soon as he got over the initial shock, CE made a dash towards the emergency generator room and started the generator. By now the oil had showered the deck, which caught on fire due to intense heat. Fire started to spread to accommodation almost immediately on the starboard side.

(What had actually happened at this time: Iraqi Super Etendards had fired two Exocets- air to surface missiles into Al Ahood, when she was some 70 - 80 miles south of Kharg Island, in approximate position lat 28.07N, long 51.06E.

By the time, the crew members on board had some inkling of the danger they were in, it was time for a life and death rescue operation. The story of their efforts and heroic struggle continues to be the fodder of Indian seafarers' conversations and part of maritime history for years to come. Master, who at this time was in his cabin, rushed to the bridge to assess the situation. The attack on his innocent ship was rather sudden and it was difficult to ascertain with certainty as to what had happened. He called for emergency muster stations and instructed Radio Officer to report the incident to the company immediately on the 2182 R/T. Master was advised to do his best to fight the fire which obviously he did!

As the chaos broke out, no one really knew the real extent of damage, though by that time the vessel was battered by two Exocet air to surface missiles one after the other. One had found its mark in the steering flat and the other landed into the stbd Fuel Oil deep tank, managing to rip the tank top off leading to the Chief Engineer receiving third degree burns.

Emergency alarm was sounded and all crew assembled on the boat deck on the port side in view of the fire on stbd side.

With the fire spreading fast to the accommodation, some crew arrived without their lifejacket and had to make use of the lifejackets from the boat deck locker. All were accounted for except for the Chief Cook and second engineer. There were three families on board, Chief engineer had his wife and two young sons, Second engineer and Radio Officer had their wives on board. Second engineer D'Souza who was on watch at that time did not join them at the muster station for quite some time creating panic and anxiety for his wife. After what seemed an inordinately long time and frenetic prayer to the almighty, when he did make it up; it transpired that second engineer was in the lift coming up for his dinner when the power had suddenly gone off. He somehow found way out of the escape maintenance hatch on the lift ceiling and scrambled out of the lift trunking. He was greeted with absolute joy and relief by all and especially his wife on the muster station. A search party of two were sent off to look for the Chief cook. By then, accommodation was totally engulfed by smoke and fire was rapidly burning the wooden furniture and fittings abundant in the interiors of an old ship like this. Even after intensive searches, Chief Cook was found missing and as it turned out later, he remained the only casualty of this sad incident in the final count.

All along, the fire fighting crew continued to wage an exhausting and long battle to contain fire. However, to their great dismay, the fire instead was now spreading from stbd side to middle and to other decks. The ship was turning into an inferno threatening its survival and safety of everyone on board.

Capt. Gopalakrishnan, a veteran seafarer took the painful final decision to "Abandon Ship" in the best interest of the crew under him and before he lost the use of the port side life boat. He called up and conveyed to the company his decision and ordered the crew to evacuate. The last and final search was carried on to locate the chief cook which did not yield any success. With a heavy heart, firstly all the families and children were put in the open lifeboat starting from the bow and then one by one the remaining officers and crew took to the port life boat. Boat was lowered to the water-level and Master, Bosun and Chief Engineer were the last to board the boat.

What happened thereafter, how the crew leaving behind all their worldly possessions, spent next hours clinging to their lives waiting to be rescued - will be in the next Samundra spirit. Till then, safe sailing!

To be continued ...

Record Keeping at Sea

Capt. Mukesh Kumar Singh
Nautical Faculty
SIMS, Lonavala

While sailing onboard ships in various capacities, record keeping has always been a part of an officer's daily routine. Despite it probably being one of the least interesting duties, it still maintains a very important aspect of an officer's job scope. A prudent seafarer is always aware of the significant role played by record keeping, as he should be aware of scenarios that may lead to an investigation or an inquiry. Accurate and contemporary record keeping can support the owner's and charterer's cause, in an event of claims and allegations.

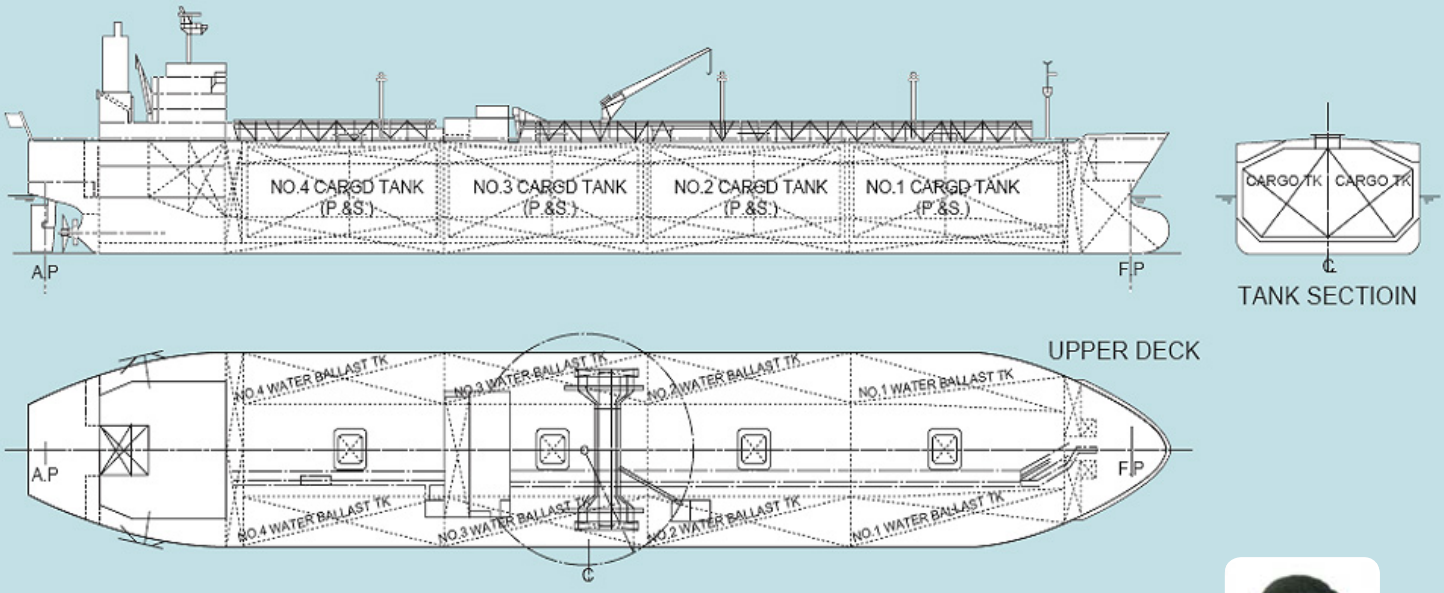
Records must be accurate and should immediately follow the event. In order to maintain accurate record keeping, following need to be observed:

1. Log book entries should be made immediately after each watch, operation or event. Should circumstances disallow an officer to do so, it must be done at the earliest possible time. This entry should include the details of the actual date and time of the log book entry, alongside with the date and time of the event being reflected. Interim notes such as movement books, port logs and such may be made in the record books.
2. In case of a structural, machinery or cargo damage, photographs or pictures of the involved matter should be taken in support of the log book entries as evidence.
3. Statements of masters and crew members should be taken after an accident or Injury. (If applicable)
4. Samples should be retained for record, inquiry or analysis. (If applicable)
5. Records should be based on facts always. Any personal opinion or judgment should be avoided.
6. Correction ink (whitener) should not be used for erasing the error or making amendments. Any corrections in the record must be made after crossing off the previous entry neatly and countersigning for the changes made.
7. Notes and personal records will serve as important references and they will be used appropriately.
8. Daily entries of weather, compass errors, headings and such must be made diligently and accurately. The frequency of such entries may increase as the circumstances suit; a rough weather for example.

As the commercial pressure on shipping increase daily, proper record keeping plays a vital role in a successful third party inspection of a vessel. Furthermore, neat and meticulous record keeping gives a good impression to any inspector. Even as the Port State Inspections get increasingly stringent, accurate and effective record keeping takes paramount importance.

It is a common sight for junior officers to neglect and postpone the recording of events to a later time; however a prudent seafarer would realize the pitfalls of such short cuts. **Cadets must cultivate the habit of prompt and proper record keeping from an early stage as this will enable them to fit in to the role of an officer smoothly. Cadets would do well to understand that a job is not done until the paperwork is complete!**

Proper maintenance of record keeping



Know your Ship

Very Large (Fully Refrigerated) Gas Carriers (VLGC)

We are pleased to announce that "Know your ship" is a new segment which will be added to the Samundra Spirit now on. Our intention is to make our young readers and those uninitiated to the world of shipping to understand various types of ships carrying a wide range of cargo across the seas today.

Capt. Sandesh Arora
Marine Superintendent
ESM, Singapore

Gas carriers are specialized ships intended for the transportation of liquefied gas. These liquefied gases carried onboard these ships are used for various purposes, such as:

- primary heating fuel (Propane)
- bottled as a cooking fuel (Butane)
- intermediate in the manufacture of many chemicals; especially plastics. (Ethylene)
- Most butadiene cargoes are polymerized to produce synthetic rubber.
- Ammonia to produce nitric acid for use in the production of fertilizers and explosives.

Including the above, many other products such as propylene, chlorine, butylene, etc. are also carried on board the Gas Carriers of various types. All gas cargoes are transported in liquid form and because of their physical and chemical properties; they are carried under one of the following conditions,

- At a pressure greater than atmospheric pressure.
- At temperatures below the ambient temperature
- In combination of both.

The various gas carriers are grouped into the following types,

- Fully pressurized Gas Ships
- Semi – pressurized and refrigerated Gas Ships
- Fully Refrigerated Gas Ships.

The fully refrigerated types of Gas Ships are typically in the range from 15000 ~ 85000 m3. The three common sizes for LPG/Ammonia trades are 30,000 m3, 52,000 m3 & 80,000 m3. Out of the various types of Gas Ships, we will be mainly discussing the VLGCs in detail.

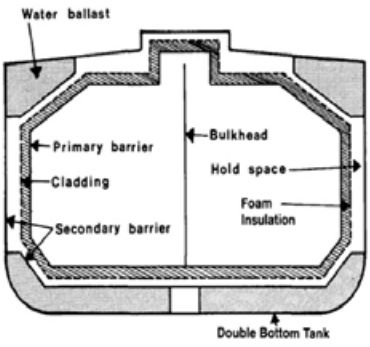
VLGCs are built with the capacity of about 60,000~85,000 m3 consisting of independent - self supporting type 'A' prismatic tanks. Independent tanks are completely self-supporting and do not form parts of a ship's hull structure, however with the Prismatic tanks, the volume of the hull is utilized and tank construction is below the main deck. Moreover, they do not contribute to the hull strength of a ship.

General Description

- These ships are generally equipped with 4 IMO type 'A' tanks of prismatic shape located below deck.
- The tanks are self-supporting and structurally independent of the ship's hull. Each tank is enclosed in a cargo hold and is bounded by the transverse bulkheads, the double bottom, the ship's sides and the main deck.
- They are constructed primarily of flat surfaces. The maximum allowable tank design pressure in the vapour space for this type of system is 0.7 bar (0.7 kg/cm2); this means cargoes must be carried in a fully refrigerated condition at or near atmospheric pressure {normally below 0.25 bar (0.25kg/cm2) at Sea and 0.40bar (0.40kg/cm2) in Harbour}
- The tanks are rested on the double bottom on specially constructed supports. They are stiffened against rolling and pitching on the bottom and against rolling and floating on top.

Tank Design

- For stability reasons, each tank is divided into two compartments by a longitudinal centre bulkhead.
- In the dome area, the bulkhead is equipped with openings so that gas phases in the two tank-compartments are connected.
- In the pump sump, the centre bulkhead has two passages with stop-valves to enable the emptying of the tank; in case the pump in one of the compartments fails. The valves are operated from the tank dome by means of spindle extensions.
- The material used for Type 'A' tanks is not crack propagation resistant. Therefore, in order to ensure safety, in the unlikely event of a cargo tank leakage, a second-



ary containment system is required. This secondary containment system is known as a secondary barrier and is a feature of all ships with Type 'A' tanks capable of carrying cargoes below -10°C.

- It is possible to carry only one type of cargo in the tank compartments simultaneously.

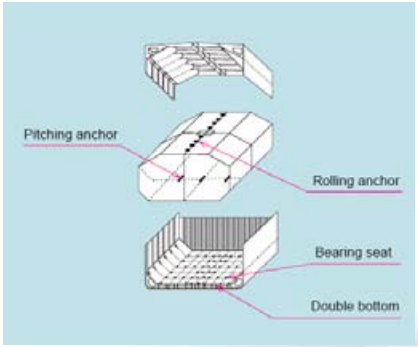
Barrier Spaces

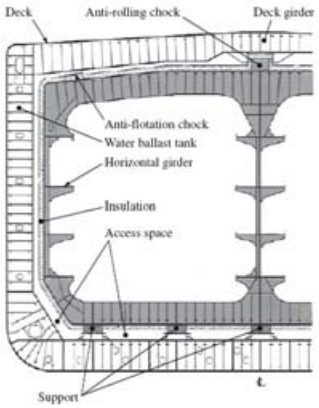
In a VLGC, the minimum temperature of the cargo that can be carried is about -50°C, hence the secondary barrier must be a complete barrier capable of containing the whole tank volume at a defined angle of heel and may form part of the ship's hull.

Tank Support and Anchoring

The Cargo Tanks are separated from the hull and tank supports while anchors are provided between the tank and hull.

- **Tank Support:** Load bearing blocks are provided between the tank bottom and on bearing seat of steel structure installed on the double bottom for the tank support and thermal insulation.





- **Anchoring:** In order to prevent the Cargo tank from horizontal motion due to rolling/ pitching of the ship and for thermal insulation, anchoring devices are provided on the top and bottom of the cargo tank.

Expansion Rubber

Expansion rubber for flexible rubber is provided to seal up the hold space from the atmosphere and to absorb the relative motion between the hull and the cargo tank. The material for the expansion rubber is Chloroprene Rubber.

Cargo Tank Insulation

The Cargo carried onboard, is of low temperature LPG, hence the cargo starts evaporating due to the heat ingress generated by the differential temperature between the atmosphere and cargo. In order to reduce the heat ingress, cargo tanks are insulated with poly-urethane foam. The insulation is protected by a vapour barrier consisting of a 0.5 mm galvalume plate.

Conclusion

On the long run, although there is a possibility that some large LPG carriers (VLGC) will be built for specific projects, it is generally presumed that the demand for highly versatile vessels for worldwide trade will continue, as per the case today. With the expectations that demands for LPG to further increase in the future, we will continue to have high quality LPG carriers coming into the market with proactively improved economic efficiency and environmental friendly designs.

SHARING EXPERIENCE

Checklist

Is It Just Ticking the Boxes?

For shipboard operations and maintenance works, there are numerous checklists & procedures to follow. During the course of our work, seafarers are expected to fill up these documents sincerely and diligently. During my tenure at sea, I have observed that even though majority of the people fill up these checklists sincerely, over time, the "I know all" attitude creeps in. That is when we are inviting near misses or incidents unknowingly. Here's one incidence I had encountered in my sailing days emphasizing the peril of such complacency.

I was then a Chief Engineer aboard a UMS (Unmanned machinery space) class ship, whose Engine Room (ER) was maintained in unmanned mode; and everyday before changing over, the UMS checklist was to be filled up. That particular day, towards the evening while engine room was manned and the ship was sailing, there was a sudden Boiler high water level alarm. The junior engineer who was 3 months old into the sea, accepted the alarm and stopped the Boiler feed pump. However, not only did he not inform his senior but he also failed to update the checklist accordingly. Soon after, the ER was put into UMS mode without a watch keeping engineer noticing the alarm in the alarm summary page of the alarm monitoring system.

Half an hour later, I noticed the "Aux Boiler Abnormal" alarm in my cabin and frenetically called up the engineers. We then rushed down to start the feed pump. Thankfully, nothing untoward happened but we definitely had survived a near miss. What if the low level alarm had not come? Consequences would have been severe.

There was definitely a line in the checklist to check on the existing alarm but nobody bothered to check and the checklist had been ticked.

My utmost advice to fellow seafarers and mostly to those stepping onboard as officers is to sincerely and strictly adhere to the planned maintenance system (PMS) while onboard. All alarms and trips should be checked periodically as per the PMS. "Just ticking the boxes" should never be attempted from your first day onboard to the last. Remember that, while onboard there is no room for error. You may have done an excellent job earlier but a small mistake can cost dearly to you, your colleagues, and to the ship.

Pankaj Agarwal
Engineering Faculty
SIMS, Lonavala

Safety Precautions while Cleaning Holds on a Bulk Carrier

An Incident Report

This incident took place when I was sailing as a Second officer on a Bulk Carrier, way back in 1995.

Vessel was in Mobile, Alabama, USA and was discharging cargos of Cement Clinkers. The next cargo was Coke and the loading port was Davant (Mississippi river). Regardless, it was a requirement to wash the holds thoroughly. Since the sailing time was only 14 hours, available time for cleaning was very short. Hence we decided to at least sweep the holds in the port as and when the discharging got over. Port stay was about three days.

On the second day, discharging the no.2 hold cargo was complete and it was ready for sweeping. As I was on duty for the night, I inspected the hold for damages and informed the Chief Officer to send the crew for sweeping and I went off duty. Work started at 0700 hrs. At 0730 hrs when I was going to my cabin after breakfast; one of the crew members was proceeding agitatedly towards the ship's office. On the way, he told me to head down to hold no.2 as an Able Seaman (AB) had fallen from the top. This was from a height of 15 meters. I immediately ran back to the hold and found the AB lying in the hold on his back. I went down to examine the condition of the AB and surprisingly found that he was conscious. He told me that he fell from the Hatch entrance and added that his body below the waist was badly in pain, and he was unable to move. I gently turned him to see what had happened and realized that he had dislocated his ankle bone. Hence I maintained him in the same position, trying to soothe him as to make him feel a more comfortable.

In the meantime, the Captain had already called the agent for Medical assistance. Within half an hour of the incident, paramedics were on board and the AB was lifted up and shifted to hospital.

The following was revealed after the investigation:

The AB was told to start cleaning the hold from the Hatch entrance, which had a straight ladder leading down to the bottom of the hold. While he took all his tools, i.e. broom, scrapper and scoop in one hand, he was also holding on to the rung with his other, as he progressed down by sweeping He was wearing loose leather hand gloves too. Initially at the Hatch entrance, he was able to take support of the bulkhead and carry out the task, but as he entered the hold, he only had the support of one hand and both legs on the ladder. Unfortunately, at one point while scrapping the loose rust on the hold's bulkhead, his hand slipped from the hand gloves and he started falling down. Thankfully, while falling, the AB was struck by the guard, that broke his fall and subsequently, he landed on his feet. The gloves were found stuck on the rung during the inspection afterwards. According to the doctors, he could have been wheel-chair bound for the rest of his life, had he not been struck by the guard mid-air nor landed on his legs.

Capt. Deepak Tamras
Nautical faculty
SIMS, Lonavla

1. **When working in the cargo holds for cleaning, what PPE should be worn?**
2. **How & where should the safety harness be secured when working?**
3. **When climbing any ladder how many point of contact (with hand & foot) should be maintained and what are these?**
4. **Can a person climbing a ladder carry any tools and if so what are those tools?**

* We invite responses from our learned readers as to the causes and lessons learnt through this case study. Please send your responses to samundraspirit@samundra.com.

Responses for - Foul Anchor: Issue 10 (Jul 2010)

We have received an overwhelming number of feedbacks and comments from our enthusiastic readers on the previous case study - **Foul Anchor**. Here is a compilation of the responses received...

Emergency preparedness and vigilance required at a congested anchorage -

a. Main Engine to be kept ready for immediate use.
b. Engine room to be manned at all times.
c. Distance of close by ships to be monitored closely at all times, their names noted down on chart.
d. Efficient VHF watch at all times on agreed VHF channel to be maintained.
e. Extreme care during change of tide to be taken.
f. Adequate lookouts for monitoring close by vessels to be deployed.
g. Windlass power to be available at all times.

Tell tale signs of a fouled anchor and actions required to handle such situation -

a. Increase in turning circle of the anchor might be a case for suspecting foul anchor.
b. Excess load on the windlass.
c. Abnormal noise from anchor chain when there is weight on the chain.
d. Clear the foul anchor at the soonest taking all safety precautions.

Procedures to be followed -

a. Inform / notify near by vessels and port authorities (if in port limits).
b. Inform / notify Owners and Charters.
c. Ask for shore assistance if required.
d. Make a JHA prior clearing foul anchor.
e. A "SECURITY MESSAGE" to be transmitted prior and after clearing the foul anchor.
f. All permits to be filled as per company SMS.

Is your Ship Making Profit?

Basics of Commercial Operations

Capt. Rajesh Subramanian
Senior Marine Superintendent
ESM, Singapore

Merchant shipping is a commercial venture, if it does not result in commercial gain to the owners and charterers, the ship would not continue to trade and we would not be required to man and manage them.

The owner invests in a vessel with an aim to profit from its earning potential, which is essentially by safely carrying cargo under the relevant rules and regulations of national and international maritime bodies.

Commercial vessel operations comprise of a labyrinth of agreements, parameters, requirements and performance criteria, not all of which is necessarily made available to the ship's officers. As a cadet your exposure to this aspect of shipping may be limited to the efforts expended in understanding the reasons for being hassled by the senior management on board to land the gangway swiftly in port, to expedite cargo operations, get the tanks prepared promptly or maintain an accurate log of events and many other such 'inconveniences' that you may be subjected to when the vessel calls port.

Hence, the scope of this article is just to intimate that you gain at least a peripheral perspective on this vital aspect of the Shipping business. The following is a simplistic presentation of some of the generic commercial concepts for readers uninitiated in this vast topic.

The Players

Ship owner: The entity that purchases the vessel and trades it

Technical Manager: The organization that provides the crew and technically operates the vessel on behalf of the owners

Charterer: The entity that hires the cargo carrying space of the vessel to ship the cargo from the Seller to the Buyer

The relationship between these entities is symbiotic, the owners hire the services of the Ship Manager to operate the vessel according to the regulatory regime and carry the cargo safely. The owner derives his income from the hire paid by the charterer who uses the space on his ship to carry the cargo and earn freight. For all practical purposes the Ship Manager represents the interests of the owners.

In Actuality there are other parties involved in the process such as brokers, who mediate between the charterers and owners to reach an agreement. These may be owners brokers, charterers brokers etc.

The Contract

The contract between a Ship owner and a charterer for hire of the vessel or carriage of cargo is termed as the 'Charter'. There are 3 generic types of 'Charter', as follows:

Voyage Charter: The charterer hires the cargo carrying capacity of the vessel for the payment of sum based on the amount of cargo called 'Freight' for transporting a cargo from one port to another. It is important to note that in a Voyage Charter the charterer 'hires' only the cargo carrying capacity of the vessel and not the entire vessel. The Owner bears expenses for the crew, maintenance and bunkers

Time charter: The charterer hires the vessel from the owners for a specific period of time for a daily rate called the 'hire'. The owner remains responsible for operating and maintaining the vessel but the charterers control the commercial operation of the vessel and can order it to any port for cargo operations. The owner bears the expenses for the crew and maintenance but bunkers are supplied by the charterers

Bareboat Charter: Or a Demise charter is an arrangement by which a Charterer hires the entire vessel from the owners such that they assume most of the rights of the owners. Unlike in a time charter, a Bareboat charterer takes up the maintenance and technical operation of the vessel. He may, as the 'disponent owner', fix the vessel on period charters. The crew are employed by the Bareboat Charterer or by a Ship Manager on their behalf.

To elucidate the above relationships in non marine parlance, let us suppose that a person owned a truck that could be used for carrying goods and someone hired it to carry his goods from one place to another by paying an agreed rate consistent with the current market would be in an agreement akin to a voyage charter. If on the other hand someone hired the truck from the owner with its driver for a period of a few months agreeing to pay a monthly hire it would be a Time charter. If one were to take the vehicle on a long term lease, bare without the driver and operate it to his requirement, this would be a Bareboat charter. If you have not yet guessed what the role of the Ship's crew is in this illustration … it is that of the driver!

Obviously most owners prefer to have their vessels on a long term time charter as this guarantees them a fixed income over the agreed period of time. Depending on the market, owners may prefer to trade the vessel on the 'spot market' which is like a commodity exchange where brokers fix vessels for cargoes which are available for immediate shipment.

We would be talking about the other variations of the charter party in the next issue.

The Maritime Labour Convention 2006

Capt. V.R. Krishnan
Nautical Faculty
SIMS, Lonavala

The Maritime Labour Convention 2006 (MLC 2006) was adopted by the 94th International Labour Conference (Maritime) in February 2006. It stipulates the basic conditions of employment for more than 1.2 million seafarers engaged in maritime transport serving 90% of world trade. It delineates seafarers' rights to decent conditions of work and helps to create conditions of fair competition for ship owners.

MLC 2006 has been designed to become a global legal instrument that, once it enters into force, will be the "fourth pillar" of the international regulatory regime for quality shipping, complementing the key Conventions of IMO such as SOLAS, STCW and MARPOL.

How will it affect us:
For many of today's operators there will be little need for radical change in their business mode, but would be deterrent for those employers who are ill equipped and ill prepared to adequately compensate their seafarers. However, the MLC 2006 will not come into force until a year after it has been ratified by at least 30 International Labour Organization (ILO) member states representing a minimum 33% of the total gross tonnage of ships above 500 tons engaged in international trade. The European Union will set a deadline for ratification, and the **deadline will probably be December 2010**.

What will happen to the old convention:
The existing ILO maritime labour Conventions will be gradually phased out as ILO Member States that have ratified those Conventions ratify the new Convention, but there will be a transitional period when some parallel Conventions will be in force. Countries that ratify the Maritime Labour Convention, 2006 will no longer be bound by the existing Conventions when the new Convention comes into force for them. Countries that do not ratify the new Convention will remain bound by the existing Conventions they have ratified, but those Conventions will be closed to further ratification.

What is it:
The Convention is organized into three main parts: the Articles coming first set out the broad principles and obligations. This is followed by the more detailed Regulations and Code (with two parts: Parts A and B) provisions.

The Regulations and the Standards (Part A) and Guidelines (Part B) in the Code are integrated and organized into general areas of concern under five titles as follows:
Title 1: Minimum requirements for seafarers to work on a ship
Title 2: Conditions of employment
Title 3: Accommodation, recreational facilities, food and catering
Title 4: Health protection, medical care, welfare and social security
protection
Title 5: Compliance and enforcement

The Convention does not apply to:
- ships which navigate exclusively on inland waters or waters within, or closely adjacent to, sheltered waters or areas where port regulations apply;
- ships engaged in fishing;
- ships of traditional build such as dhows and junks;
- warships or naval auxiliaries.
- What will it address

It is envisaged that the implementation will contribute to the resolution of some of the major problems causing concern throughout the industry today, primarily the difficulty in attracting high quality officers and ratings to competently crew and manage today's sophisticated tonnage. Efforts must be made to improve the image of seafaring presented to those young people yet to choose a career, and the perception of many of those who do go to sea but quickly become disillusioned with shipboard conditions.

The ships of ratifying countries that provide decent conditions of work for their seafarers will have protection against unfair competition from substandard ships and will benefit from a system of certification, avoiding or reducing the likelihood of lengthy delays related to inspections in foreign ports.

In recent years, crew retention has become a major problem (particularly among those Officers of intermediate rank) and when they exit the industry for land based employment, their skill and experience and the investment in expensive training is lost.

Certification required under MLC:
Ships will then be required to carry a **Maritime Labour Certificate (MLC)** and a **Declaration of Maritime Labour Compliance (DMLC)** on board. Flag States will also be expected to ensure that national laws and regulations implementing the Convention's standards are respected on smaller ships that are not covered by the certification system. Flag States will carry out periodic quality assessments of the effectiveness of their national systems of compliance, and their reports to the ILO under article 22 of the Constitution will need to provide information on their inspection and certification systems, including on their methods of quality assessment.

The certificate would be valid for five years subject to periodic inspections by the flag State. The declaration is attached to the certificate and summarizes the national laws or regulations implementing an agreed-upon list of 14 areas of the maritime standards and setting out the shipowner's or operator's plan for ensuring that the national requirements implementing the Convention will be maintained on the ships between inspections.

The lists of the 14 areas that must be certified by the flag State and that may be inspected, if an inspection occurs, in a foreign port are also set out in the Appendices to the Convention.

The new MLC contains provisions for complaint procedures available to seafarers; shipowners' and shipmasters' supervision of conditions on their ships; flag States' jurisdiction and control over their ships; port State inspections of foreign ships.

By requiring ratifying Members not only to implement the Convention in the national laws but also to document their implementation, the Convention should also enhance the effectiveness of the supervision carried out at the international level, especially by the competent bodies of the ILO.

To date the countries have ratified the MLC 2006 are Spain, Panama, Norway, Bulgaria, Canada, Marshall Islands, Liberia, Bahamas, Croatia, Bosnia & Herzegovania.

Hull Protection

A Challenge to Coat Ship's Hull with Non-Pollutant Paints

A Technical Report by Cdt. Digvijay Pratap Singh, Cdt. Arpit Rastogi, Cdt. Gurpartap Singh Sodhi, Cdt. Neeraj Ambare & Cdt. Vijin Babu

This article, is a short synopsis of the technical paper which won 2nd place by our SIMS, Lonavala cadets at the Technical paper competition sponsored by Castrol India Ltd. The theme of the competition was 'Innovations in shipping to reduce impact on Global warming'.

The common problem: Fouling

A ship spends most of its life at sea; hence, its hull is prone to numerous problems. As such, a ship's hull requires extensive protection from fouling due to its proximity to sea water.

Fouling is the colonisation of micro-organisms, such as algae and barnacles forming on a ship's hull; eventually affecting the ship's performance. The encrusting of these organism increases the friction on the ship's hull, leading to an augmented drag force. When this happens, the load and the ship's fuel consumption increases, leading to the degrading of the ship's efficiency. The issue is not to be underestimated as even a thin layer of accumulated micro organisms is capable of producing the impacts mentioned above.

The solution: Biocides

In order to get rid of these organisms, antifouling agents such as biocides are required. Biocides are substances that poison anything that adheres to its surface, thus killing the micro-organisms and leaching them out into the sea.

There are two types of Biocides:

1) TBT (Tributyltin)

2) Copper Based.

Tributyltin's main metallic constituent is tin, which is poisonous to marine life. An affected marine life harms us, as they play a major role in our food chain. Due to this, IMO banned the use of Tributyltin.

Copper based biocides, on the other hand, contains copper as its main constituent. Copper oxide leaches from the boat surface and enters the water as a free copper ion (Cu+), immediately oxidising to Cu2+, and form complexes with inorganic and organic ligands.

Effects of Anti-Fouling Paints

These anti-fouling paints protect the ship's hull efficiently, but affects the marine and the human life adversely. It causes defective shell growth in oyster and is also responsible for the development of the male characteristics in the female genitalia of sea whelks. It was also found that the workers applying these paints are very much prone to skin cancer.

The Alternate Solution

The encrustment of the ship's hull is one of the world's most stickiest and expensive problems in the shipping industry. The world's shipping fleet spends about $ 5bn annually to overcome this problem and yet it is a major headache. However, according to scientists, Nanotechnology is a solution.

Anything that is small is called nano and its technical application is called nanotechnology. Initially, silicon paints which were doing the job of anti fouling without affecting the environment, lagged the efficiency in its task, but incorporating carbon nanotubes in the silicon beds made the paints become more effective as the nanotubes had inbuilt anti-fouling properties.

Properties of Carbon Nanotubes

There are basically four properties of carbon nanotubes which work together to prevent the fouling of the ship's hull i.e., to prevent the accumulation of micro-organisms on the outer surface of the ship. The properties are:

1. **Release of Ions**
   Carbon nanotubes have the tendency to release the ions at regular intervals. Due to this property of releasing ions, the micro-organisms which colonize the outer surface of the ship, loses their grip and ultimately fall down into the sea.
2. **Low Lattice Spacing**
   Carbon nanotubes have low lattice spacing of virtually zero. Lattice is the arrangement of the molecules in a particular pattern of anything; the spacing or voids left between these molecules is known as lattice spacing. By reducing the lattice spacing to virtually zero, the micro-organisms won't be able to find grip on the ship's hull. This prevents fouling.
3. **Low Surface Energy**
   Each and every one of us has seen an aluminum u-clip floating on water. As far as Archimedes principle is concerned, it should sink in the water, but it doesn't. This is due to the high surface energy provided by the water. So, if there was high surface energy, it will be very easy for the micro-organisms to grip the hull. But due to low surface energy the micro-organisms loose their grip and ultimately this prevents fouling. The carbon nanotubes have got very low surface energy; it is as low as 3mN/m.
4. **Nano Texturing**
   Nano texturing is segregated to either
   1. Upside down
   2. Down side up

   The downside up painting is much more preferable than upside down. This is because of the few overlaps during painting. When we paint upside down, we get a ladder kind of structure which will be very easy for micro-organisms to grip, but during down side up we will get an inverted ladder kind of structure which will be impossible for the micro-organisms to make a grip as lattice spacing is already zero. The above given properties help in the prevention of fouling of ship.

Advantages of Nano-Paints.

1. Outstanding adhesion.
2. They are Highly Anti-corrosive.
3. Resistance to UV/Water.
4. Anti-fungus/foul properties.
5. Impact and scratch resistant.
6. High Thermal Stability.
7. Reduces the frequency of carrying out an anti-foul treatment, recoating and time consuming cleaning efforts.

Summary

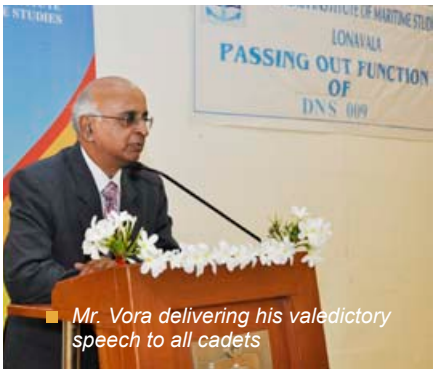
Future of the ship painting industry obviously lies in the nano technology since these paints are totally environment friendly being non-poisonous and without any harmful affect on our food chain.

Passing Out of DNS-09 Batch

Chief Guest, Mr. Arun Kumar Vora (9th from left) with SIMS staffs, ESM representatives and graduated cadets

A guard of honour was given to the Chief Guest, Mr. Arun Kumar Vora

Chief guest was being introduced to the SIMS instructors and staffs



Mr. Vora delivering his valedictory speech to all cadets

Chief Guest with award winners

Passing out of DNS-09 and GME-08 Batches from SIMS, Lonavala

A total of 115 cadets from the Diploma in Nautical Science's 9th batch and 80 cadets from the Diploma in Marine Engineering's 8th batch, graduated from the Samundra Institute of Maritime Studies, Lonavala, on the 16th July and 28th August 2010 respectively. It was a joyous occasion (picture on this issue's cover) as the cadets were set to embark on their next phase in life with both convocations having their special guest to motivate these young pioneers.

The graduation of the DNS-09 batch, the largest group to graduate from SIMS by far, was witnessed by the chief guest Mr. Arun Kumar Vora, Director of TATA Group of Companies and a member of SIMS, Trustee & Governing Council. Ms Sikha Singh, Director HR and Crewing of ESM and Principal trustee, SIMS participated in the event together with Mr. S.M Iyer, Resident Director and Mr. Vijayraghavan, Company Training Officer, ESM.

Mr. Vora, who is also an engineer by training and have had a long innings in the corporate world, emphasized that he had not come across the kind of training facilities that exist in SIMS, Lona-

Passing Out of GME-08 Batch

Chief Guest, Mr. Dilip Mehrotra (7th from right) with SIMS staffs, ESM representatives and graduated cadets

vala, despite his frequent travels within India and abroad. While delivering his valedictory speech in the Auditorium to the cadets, family members of the cadets, faculty and staff members, and other guests, Mr. Vora congratulated the passing out cadets for having undergone the rigorous year long training at SIMS. and He also presented the awards and certificates to the winners of various subjects and discipline.

The passing out of the 8th batch of Marine Engineering Graduates was equally grand and exciting as Chief Guest Mr. Dilip Mehrotra, surveyor cum Deputy Director General (Technical) spurred on the 80 cadets with the motivational phrase 'Nothing replaces hard work, honesty and dedication for the success in life'. Mr. Dilip also praised the institute's quality maritime education and training systems but advised the cadets that after graduating, they will be stepping into a world where they have to make their own decisions and plan a road map for their own future. Calling upon the cadets to face their own challenges, as the world outside will not be as good as the cadets may think. But he gave his word of confidence to these fresh graduates that they will be able to address all challenges that they may face as they are stepping out of SIMS.

Other dignitaries who participated in the function were Capt SC Panigrahy Principal of LBS College, Capt Rajeev Gupta General Manager, ESM Mumbai, ex-Principal SIMS,Lonavala Prof. DVB Swamy, CTO ESM Mumbai Mr. Vijayaraghavan, Mr Shirish Kumar, Engineering Faculty of SIMS Mumbai together with his colleagues Mr. Manish Jha and Mr. Vaishakh Chavan.

Inspection of parade by Chief Guest, Mr. Dilip Mehrotra

Chief Guest was meeting the SIMS faculty

Touring the facility

Chief Guest and Principal (6th from left) with the prize winners

Integrated Gas Tanker Simulator (IGTS) gets another Feather in the Cap

The existing simulator has now been linked with a newly created state of the art 'deck panel'. This will further enhance the simulator's capabilities for a more realistic training in a truly ship like environment.

All the deck lines, fittings and machineries are depicted on this mimic panel. The candidates can operate the valves, do the line up for different operations, e.g. loading, discharging, inerting, gassing up etc and finally carry out the operations in a realistic way, as they will do it onboard. Cargo pumps and re-liquefaction plant can be started from this panel and all the relevant parameters can be monitored and controlled. Gas sampling, to ascertain the presence of hydrocarbon and oxygen content, is simulated very intelligently and portable gas meters (simulated) give the read outs as in the real situation. Chicksan connection is simulated using a hardware scale down model of a real chicksan and the manifold connection can be logically done as needed for different operations. There are many more useful features in this new panel.

The first LPG cargo and ballast handling simulator course, using the enhanced IGTS, was a management level course, attended by deck officers and engineers. This course was a great learning experience for the participants and the Instructors were equally thrilled imparting the gas tanker training, probably using one of the most sophisticated simulators in the world. Simulator exercises was conducted by dividing the batch into two groups, one group stationed at the cargo control console and the other group at the newly created deck panel. The experience for the candidates on the simulator was very close to what they are likely to experience while working onboard.

Avoid Complacency, Avoid Accidents

S.Viswanathan
Principal
SIMS, Lonavala

This happened when the author was sailing as a Second Engineer on a 90000 DWT crude carrier. The third engineer who was keeping 12 to 4 watch was instructed to overhaul the Main Air Compressor, and the fitter was assisting him with the overhaul. After dismantling the cylinder head, the team continued dismantling the connecting rod bolts and drawing out the piston from the cylinder. The eye bolt used for securing the piston was fitted improperly due to which the piston and the con-rod turned whilst being lifted .This resulted in the con rod flange getting stuck in the web of the crankshaft. The eye bolt came free and the piston and con-rod assembly fell on the right hand of fitter who had positioned his hand inside the crank case to guide the withdrawal of the con-rod and piston assembly. The sharp edges of the con-rod palm dismembered the middle finger of his right hand.

Course of Events:

With the help of the fitter, the third engineer took the spares and tools required for performing the overhaul of the Main air compressor and proceeded to open up the compressor parts. When the piston had to be lifted, the Third Engineer fitted the eye bolt on the piston crown and found that he was not able to fully thread the bolt into the crown. Assuming that the piston and con-rod assembly were not very heavy, he concluded that having just a single thread of the eyebolt stud screwed into the piston was sufficient for the intended purpose.

Whilst being pulled out the con-rod palm turned and got stuck in the way of the crankshaft webs, seeing the resistance the third engineer forced a jerk on the chain block. This caused the eye bolt to slip off the piston crown , thus resulting in the piston assembly falling down and injuring the fitter.

Causes of the Incident:

- Third engineer was using the wrong tool / equipment (Improper eye bolt)
- Unsafe working practices (Jerks on the chain block, placing hands inside the crankcase while dismantling/assembling of parts)
- Unfamiliar with the equipment construction and maintenance procedure

Root Cause:

Not fitting the eyebolt through its entire length of the threads into the piston crown was the primary cause for the accident.

Extent of Damage:

- The Fitter lost half of his middle finger on his right hand, the ship was out at sea and minimal medical attention was available to stop bleeding and prevent infection. He was in great pain until he was signed off the vessel about three days later; not to mention the state of emotional shock that he was forced to endure.
- The fall of the con-rod palm resulted in scratch marks on the crank pin and the pin had to be polished.
- The thread on the piston crown had been damaged and had to be dressed up.
- Main air compressor could not be used for the next 48 hrs.

Lessons learnt:

1. Implement Take 5 and assess risks before any work on board the ship.
2. Understand the equipment and maintenance steps to follow thoroughly before starting the procedure.
3. Identify correct tools to use, inspect the tools for intended purpose and use them correctly.
4. While using eye bolt for lifting purposes, ensure eye bolt is screwed completely inside the component until the flared bottom of the eye bolt is flush with the component surface.
5. When in doubt, stop the work, take senior's advice, repeat Take 5 and resume.

LNG - A Marine Fuel of the Future

The last few years have seen an increase in the regulatory framework governing marine fuels and the emissions resulting from their use. Bunker Fuels have been identified as a major contributor to atmospheric pollution especially in the vicinty of ports and coastal areas. Stricter caps on the sulphur content of fuels being used when the vessel is in port has been enforced by many port states.

Whilst these measures will result in a reduction of harmful emissions to an extent, the use of alternative cleaner fuels for propulsion of ships is not something that has been envisaged as a near term option in achieving this end. There are many challenges involved in developing affordable alternative fuel marine engines, however the stricter norms may hasten the process atleast in the 'short sea' or coastal shipping trade.

Forward thinking shipowners are increasingly turning to gas as a marine fuel. The environmental benefits of LNG as a fuel are well documented, with near zero sulfur-oxide emissions and much lower CO2 as well as significantly reduced nitrogen-oxide and particle emissions. In addition, there seems to be more gas reserves available than oil,therefore it appears that LNG has to feature as one of the potential solutions in helping the shipping industry cope with the challenge of emissions. It also deals with the problems of low quality liquid fuel associated with inferior bunkering in one stroke.

Robert Mcfarlane
Consultant (Engineering)
SIMS, Lonavala

Lean burn gas engine technology was originally developed in the 1980s, however the main application for this type of engine was in land power generation. Towards the end of the millenium, ships fuelled with LNG started to go into operation with more going under construction for coastal and short sea vessels. This was to overcome waters with stricter rules placed on marine exhaust emissions .

The world's first LNG/LPG/Petrochemical Gases carrier with dual fuel propulsion system was put into service in 2009; this 117m vessel designed to carry 7,500m³ of cargo can achieve speeds upto 15.5 knots. It has a flexible propulsion system to meet various operating patterns. It is a combination of diesel and gas engines providing power and two azimuthing thrusters with pulling propellers as the main means of propulsion, which is then linked by an electric transmission system. Generators are driven by two diesel engines and two gas engines. Furthermore, a variable frequency drive system feeds power to the electrical motors that drives the main thrusters. For manoeuvring, there is a tunnel thruster at the bow and the whole system works as an integrated unit. When carrying LNG as cargo the ship burns this as fuel in the two gas engines. When the cargo is LPG or petrochemical gas, the diesel engines are used.

RORO vessel owners are also seeing the benefits of gas fuels thus encouraging engine manufactures to develop engines to meet these requirements. This is especially true for those operating in the Baltic sea. It is believed that the world's first cargo vessel with a simple mechanical drive propulsion system, fuelled solely with LNG, will be launched in 2010.

The single main engine uses spark ignition lean burn combustion technology resulting in very high thermal efficiency and good load/speed control. It is classed for the load/speed operational pattern that comes with mechanical coupling to a controllable pitch propeller.

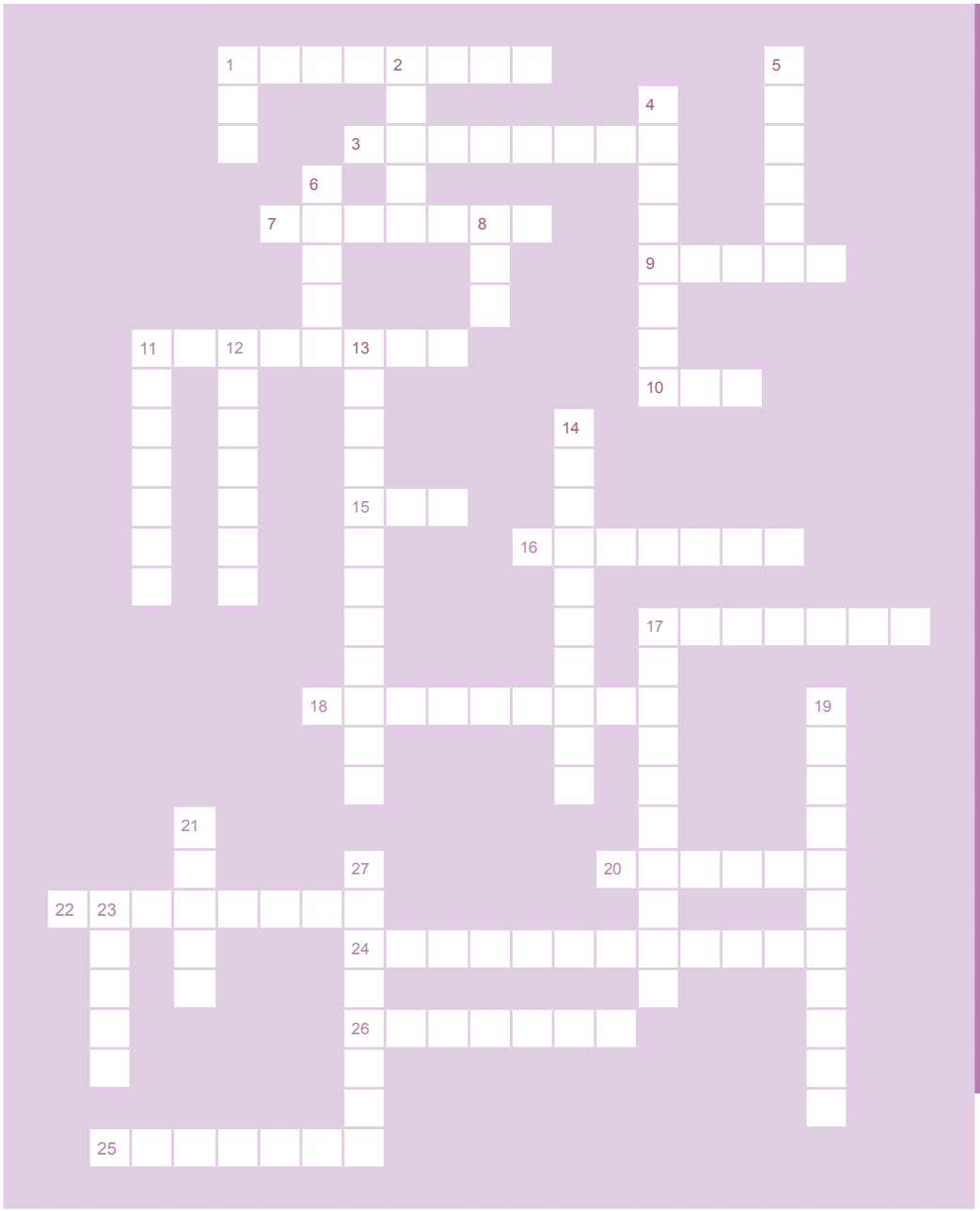
Liquid gas will be bunkered in two insulated flasks in front of the engine room, where the evaporator system is also located. The vessel's electrical load is supplied by a generator driven off the gearbox.

Coastal shipping, which accounts for more than 33 per cent of the world's fleet is expected to be subject to more stringent controls. As much of the world's fleet is more than 25 years old, fleet renewal programmes would obviously open the way for significant emissions reductions. New ship designs point the way. In fact, a study in Norway involving shipowners, cargo interests, shipyards, equipment suppliers and other organisations has been looking into the future of coastal shipping for the past two years and the project is now moving into the second phase – to understand and realize the required updating of the coastal cargo vessel fleet.

The study has analysed the existing fleet, its usage and potential for improvement. Fuel use and environmental impact were considered while ports and the flow of freight were also investigated. The main conclusions, are that new designs of ship and a move to LNG fuel would offer substantial benefits. But ways of financing the renewal would need to be found together with the political will to support such a transition in marine transport.

Guidelines are now available for gas to be used as a marine fuel. Compared to oil, natural gas has the advantage of excellent efficiency with a lower environmental impact, and its wider use in the marine industry may only be a matter of time.

Crossword Puzzle



Answers:

Across:

1. Overhead
3. Clingage
7. Transom
9. Shims
10. RAM
11. Bulkhead
15. OBO
16. Halyard
17. Scupper
18. Stripping
20. Camber
22. Helmsman
24. Displacement
25. Ballast
26. Racking

Down:

1. OBQ
2. Halon
4. Demister
5.Fathom
6.Froth
8. OPA
11. Bulwark
12. Leeward
13. Explosimeter
14. Breast line
17. Segregated
19. Sheer strake
21. ODMCS
23. EPIRB
27. Undercut

CDT Jeshuran Vasanth Ponraj
CDT Prateek Shukla &
CDT Vijinth Kannan
GME-08, SIMS, Lonavala

Across

1. Due to _____ position, the valve opening and closing direction will differ.
3. Oil remaining on walls of tank interior after bulk of oil has been removed.
7. _____ space via which tiller stock passes.
9. Thin plates added down to pump for alignment is called _____.
10. _____ stands for restricted in her ability to manoeuvre.
11. In ER/STCWT (/) stands for?
15. A combination carrier.
16. The line used to raise and lower the sail.
17. _____ are provided to drain the water from the deck.
18. The final operation of pumping bulk liquid from a tank or pipeline.
20. The transverse curvature of deck from the centreline down to side.
22. The member of crew responsible for steering.
24. This water is given to purifier to remove light phase before de-sludging.
25. Future Annex-7 in MARPOL related to exchange of _____ water.
26. This is removed by providing beam knee.

Down

1. Before loading, the quantity remaining onboard is known as:
2. Gas used for fire fighting onboard in earlier days.
4. A type of filter used in fresh water generator.
5. A measurement related to depth of water.
6. Other name of foam.
8. _____ formed for oil pollution in 1990.
11. Handrails provided on deck to avoid falling overboard.
12. Downwind is also known as _____.
13. A type of combustible gas indicator.
14. A docking line going at a right angle from the boat to the dock.
17. SBT stands for _____ ballast tank.
19. The uppermost line of plating in the side shell.
21. _____ is used to monitor the oil discharge.
23. _____is used to indicate the position of ship in emergency.
27. A type of welding defect.

Loading of Chemical Tankers

Beware of Thermal Expansion!

Capt. Sumit Rawla
Senior Marine Superintendent
ESM, Singapore

Loading of chemical ships without consideration of thermal expansion due to temperature increase during voyage is a sure recipe for nothing but a disaster in waiting.

Know your Cargo

It is the property of liquid to expand as the temperature rises, or contract as the temperature drops. However, hazards posed by thermal expansion of liquids have the tendency to be overlooked as it can generate large pressure increments with even the slightest variation of temperature change. These hazards can be catastrophic, especially when it includes a combustible liquid heated either near or above its flashpoint, likewise when a liquid heated above its normal boiling point or if it's a volatile toxic liquid. These can cause flash fires, explosions, and toxic releases.

Allow Space for Expansion

In order to safeguard tanks carrying liquids at ambient temperatures, it is important that sufficient space must be allowed in the tank to accommodate any thermal expansions expected during the voyage. The highest temperature is to be determined with due consideration to the condition of the vessel during the voyage; taking into account the period, season, route, trim etc.

Numerous incidents have been reported, when cargo tanks loaded without consideration to voyage temperatures, had its chemicals overflown on the decks from the vent pipes or other openings; due to the variation in the temperature.

Follow the Formula

On a Chemical Tanker the cargo tanks can be loaded up to a liquid level corresponding to the maximum filling ratio obtained from the following formula.

Max. Filling ratio (% full) = 100 (1 - R x T) - S where; R is the Coefficient of cubical expansion per °C, T is the Expected maximum temperature rise (°C) & S is the Safety margin which is usually 2% of tank capacity

Building a Chemical Tanker

During shipbuilding, maximum temperature is limited because, thermal stresses for each vessel have been laid down by the Classification Societies. Under no circumstances are these limits to be exceeded. Tank coatings may be subjected to limitations regarding their maximum loading, carriage and discharging temperatures. This guidance is provided in the Certificate of Fitness or Operation Manual. When the cargo is to be heated to a temperature higher than at which it was loaded, allowance must be made for the increased volume, which will result from expansion. Unless the ship is specially designed for carrying heated cargoes, cargo heated to a high temperature can damage a tanker's structure, protective coatings and equipments such as valves, pumps and gaskets.

Watch the Pressure

The main hazard presented by the heating of a liquid is over pressurization. Over Pressurization of cargo tanks is caused by the compression of the ullage space due to the inadequate release of vapor or by the overfilling of the tank. The vapor space in a loaded tank is usually small, so over pressurization can occur very suddenly, especially if the cargo is forced into the vent lines, which then becomes restricted or blocked, adding to the rapid increase in tank pressure due to thermal expansion. This can cause the tank structure to be seriously deformed, leading to the cause of a fire, explosion or pollution.

Needless to say, that during the voyage, vent lines must be checked at regular intervals. Their design capacity is based on vapor flow & resistance; structural change may result if vent becomes full of cargo due to thermal expansion.

Check-List

The following must be considered when planning stowage of heated cargoes adjacent to no heat cargoes to avoid any expansion during the voyage:

a. Check that the proposed load/discharge and carriage temperature does not exceed the maximum loading temperature for cargo valves and/ or tank coating limitations.
b. Cargo plans should take into account the changes in ullage space due to cargo temperature fluctuations. This is with special regards to the expansion of cargoes during the voyage and at the discharge port.
c. Heat-sensitive cargoes such as Styrene Monomer, may polymerize, decompose, become unstable or evolve gas and must not be loaded in tanks adjacent to cargoes which require to be heated. Tanks containing heat-sensitive cargoes are required to be fitted with an alarm system which continuously monitors the cargo temperature.
d. Some chemical cargoes may even react with water, therefore it is necessary to ensure that the heating coils are blown through, cleaned and blanked off.
e. Loading cargoes with low boiling point adjacent to heated cargoes should be avoided, as excess evaporation will result in cargo loss and possible vapor hazards. As a safe margin, the maximum temperature of the heated cargo must be 10°C below the boiling point of the unheated cargo. To illustrate, this would mean that a heated cargo with maximum heating temperature less than 54.5°C may be stowed adjacent to Ethanol (boiling point = 64.5°C).
f. Heated cargoes must never be stowed adjacent to self-reactive cargoes, since excess heating of self-reactive cargoes will shorten the life of the stabilizing inhibitor leading to a possible self-reaction.
g. Avoid stowage of heated cargoes adjacent to tanks which contain poisons to minimize the possible emission of poisonous vapour on the deck.

While the above was written with chemical tankers in mind, the need for thermal expansion allowance are equally valid for oil tankers. Any overflow due to insufficient allowance can lead to structural damage in tanker, as well as result in sea pollution.

Sulzer RTA Cylinder Head studs breaking

A Common Issue?

Anirudh Kumar
Engineering Faculty
SIMS, Lonavla

The Main Engine's (ME) two stroke diesel engine fitted on the ships has a number of cylinder units, which develops power for propulsion of the vessel. ME cylinder unit combustion chamber comprises of head cover and cylinder liner and piston. Cylinder head sits on top of the cylinder liner and is secured by 8-16 long studs depending on the size of the engine. These studs are made of high tensile steel with high resilience properties to hold the cylinder cover in place under high firing/ working pressure generated inside and prevent any gas leakage from the sealing faces.

Should a failure or breakage of these studs occur, exhaust gas leakage will take place in the Engine room. The high speed and temperature of the leaking gases can damage the sealing faces between Liner and Cylinder head landing surfaces areas.

This is a common problem and the frequent breaking of cylinder head stud can be due to following reasons:

a. Cracks developed due to the pitting corrosion caused by the water leakages depositing it at the crevices of the threaded pockets of the studs, loose studs (not fully tightened at the bottom entablature). The water enters from the gap between the studs and the block entablature as shown in the figure below.
b. Fretting cracks developing due to Studs not tightened at the bottom threads during routine maintenance and also due to the Nuts not tightened at proper tightening pressure on top threads.
c. Fatigue failure, material failure, improper design, manufacturing defect etc.

Procedure for extraction of broken studs (Sulzer RTA engine)

1. Clean the area around the broken stud on top and remove any broken threads of stud or bore. The broken surface on top of the stud can be grinded by a small grinding stone fitted to a hand drill.

2. Cut a pipe piece of outer diameter 8 mm lesser than the diameter of the broken stud and length such that, it should extend out of the entablature pocket by about 3 cm when fitted above the broken stud.

3. The profile of above mentioned pipe piece in lower end should match with the top surface of the broken stud. Otherwise weld metal may leak through any gap and weld the broken stud with entablature, increasing the problem. The job needs good welding skills.

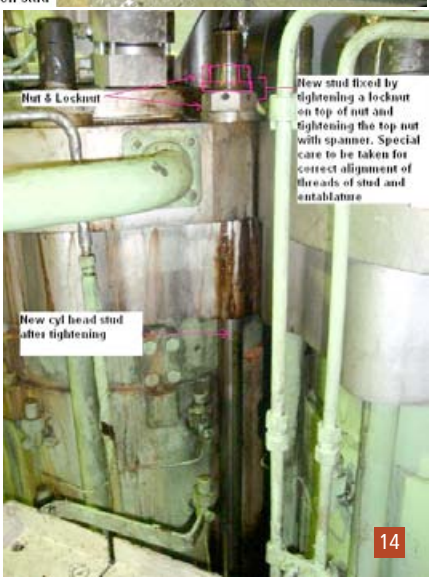
4. The visible threads can be covered with some putty or grease to prevent any weld spatter reaching the threads.

5. Weld the pipe piece to the broken stud from inside. Care should be taken that both meeting surfaces have minimum clearance and no welding is leaking outside. Welding should be strong and without any porosity or slag inclusion on whole inner circumference of the pipe. Two to three runs of weld should be given to strengthen.

6. Take a pipe (called dummy stud) of outer dia. approx. equal to inner dia. of above mentioned pipe piece and of a height such that it comes about 3 cm above the cylinder head after putting it inside the pipe piece welded to the broken stud.

7. Put the dummy stud (pipe) inside the pipe piece (which is welded to the broken stud) and weld it from outside.

8. Measure the radial gap between dummy



stud (pipe) and hole in the cylinder head for stud. Make a sleeve of thickness equal to this gap and put it there to avoid any lateral bending and welding crack of the dummy stud.

9. Weld a nut of matching size on top of dummy stud. Welding should be strong and all around.

10. Add Lubricating Oil on top of broken stud to reduce friction.

11. Put a ring spanner on the nut and open with a long pipe. If it is not turning by hand, chain block may be used to turn it.

12. Turn the dummy stud along with broken stud slowly, carefully and patiently. Take out broken stud along with dummy stud.

13. Clean and degrease the bore and threads on Main Engine entablature by WD40, CRC and compressed air. Dress up the threads with special tap (tool) if required.

14. Clean new cylinder head stud with kerosene. Tighten a nut on top side thread of new cylinder head stud and lock it with a lock nut.

15. Tighten the new stud in the entablature by spanner with pipe extension. Initially less torque should be applied. Higher torque may be applied once it is confirmed that studs and bore threads are matching.

16. Finally, it should be tightened as per maker's instruction (600 NM torque for 70 mm dia. stud in this case).

17. Pipe wrench should never be used for tightening studs as it would damage the stud shank.

18. Remove the lock nut and tighten the cylinder head nut along with adjacent 2 nuts with appropriate hydraulic pressure (600 bars in this case).

19. For the protection of the stud in the cylinder jacket (e.g. from corrosion due to any water ingress), fill the annular space above the thread with non-hardening sealing compound.

20. Start the engine and check for any leak of exhaust gas from cylinder head gasket near new stud fitted.

Against the Odds at Sea

A Personal Experience

Way back in 1993, I was a second engineer sailing onboard a 14 year old product tanker trading between the US and the Caribbean. Life was not easy though definitely exciting, as I recall how we overcame difficult and challenging situations with sheer teamwork, and ingenuity in our approach to work.

That was the time after the infamous oil spill incident in Alaska by the supertanker Exxon Valdez in 1989. It had resulted in strict Marpol inspections by the USCG and consequently we were always on our feet, to maintain the old lady in the best of her condition. However, the fact that most of our pumps were fitted with gland packing was a continuous challenge that added pressure to our existing rigorous maintenance regime.

During one of the voyages, just when we were about two days away from the US port, our oily water separator bilge pump decided to give way. This pump was of a reciprocal type driven by an electric motor through a gear train. Upon investigation it was discovered that the ebonite gear in the pump had worn off and was sheared beyond use. There was no spare gear on board and after a few frantic calls to the technical team onshore, it was advised that the part could be delivered only after a month.

The only alternative available was to use the fire and general pump (GS) to pump out bilges directly. However considering the requisite regulations we took a conscious decision not to use this arrangement.

The immediate task in hand for us was to fabricate the gear on board using a Teflon rod. Unfortunately the gear had 17 teeth - indeed a daunting task with limited resources on board! Nevertheless, we went about planning and executing this tricky task as follows:

First challenge was to drew a paper template which to be converted into metal gear in due course. Using a compass divider, graciously loaned to us by the second officer, on condition that we return it intact. We managed to draw a circle and divide the circumference into 17 parts reflecting the profile of the gear. After reducing the Teflon rod to the correct diameter and drilling the hole for the shaft on the lathe machine, the template was stuck on the periphery of the rod. The fitter very skillfully yet patiently began cutting out the gear teeth using a file. He then cut out the keyway and we had a homemade gear. We fitted the gear in place, uttered our prayers and lo behold!!! The pump started working. We managed to arrive and depart from the port safe without any problems.

Sadly, the gear broke into two, just 2 days after departure. We then realized that the sharp edges were the cause of this problem and set out once again to fabricate a new gear. The new one lasted more than two days and eventually we got the relevant spare to fix the problem permanently.

The lesson here is the perseverance and ingenuity that the seafarers need to have and inculcate to survive at sea. Out in the middle of the ocean when Santa Claus does not come to one's rescue, we don't necessarily have to throw up our hands or resort to any violation at the first sign of trouble. We can always brainstorm all possible means available at our disposal and success comes only to them who work for it.

R. Panchapakesan
Engineering Faculty
SIMS, Mumbai

Artist: CDT Bonny Sunil
DNS-11
SIMS, Lonavala

Ode to Samundra

Samundra,
To us, not just an ordinary college,
It's a perennial spring to quench,
Our thirst for unlimited knowledge;

Walls painted, yellow and white
Ensures us a future, successful and bright;
Faculty members and the lecturers,
Impart transforming education,
That would make us smart mariners,
And good citizens for our nation;

While working in a workshop,
Or the ship- in- campus,
Discipline is a must, to keep us in focus;

Whenever in hostel, we cry and yell,
The loving wardens are always there to help,
Taking care about us for our top physique,
The cafeteria provides us finger licking feast;

Be it navigation, the cargo work,
Or the engine motors,
We are heading towards,
Becoming perfect navigators;

At the completion of our course,
When we will be onboard,
We will miss the hostel,
we will miss the workshop,
But most of all, we will miss
The life in Samundra!

CDT Sheriqbal Singh
DNS-11
SIMS, Lonavala

Photographer: CDT Guruprasad S
GME-08, SIMS, Lonavala

Artist: CDT Sathish, GME-08, SIMS, Lonavala

My Road to Sea

First of all let me say, this is a real life experience. Not mine but my grand father's. He used to tell this as a bed-time story to my cousins and me. This incident changed my way of seeing life and made me set an aim to conquer the wide seas. Here's how my grandfather Mr. Vasudeva Kurup told us his story…

CDT Vijin Babu
GME-10
SIMS, Lonavala

"It was like an ant nest on fire.
Hundreds of people were burnt down like ants. Man's helplessness in between the rough sea and fire was evident.
God was the only help…."

It was April 7 1961. I was in Abudhabi seeking out my living. I had to support my whole family, including my brothers and sisters. My sister's marriage was fixed on April 29th. I was returning home as a happy man.

Flights were not common those days and everyone preferred seaways. So I too chose the same and reached Umm-al-Quwain port in Dubai.

The ports those days are not like any of the modern ports. Moreover, the ship will be about 10 km away from the port. Passengers and the others who came to see them off were taken to the ship by boats. I was in one of such boats when I met a man named Abraham. He was there to see off his sister Gracy and his brother-in-law.

Shortly after we all boarded the ship.

I recall how heavy it was raining that day turning the sea choppy and very rough. The ship was pitching and rolling in the rough sea even while anchored. As a result the boat couldn't return to the shore. So Abraham had to stay back in the ship. The voyage was postponed to 7th April.

The ship's name was "Dhara" owned by British – India- Steam Navigation. Back then, most of the people going to gulf countries depended on the ship. It started its cruise from Mumbai (then Bombay), passing through Karachi, Muscat , Dubai, Doha, Bahrain, Kuwait Iraq and then returning to Mumbai. This was her usual course.

Abraham and I waited at the recreation club and started talking over a drink, while Gracy and her husband were in their cabin. She was 7 months pregnant and she was very tired. So they went to sleep.

The incessant rain made the environment dark and gloomy. The ship also didn't stop rolling and pitching. The rain was like another sea over a sea. Even then the passenger were happy and full of excitement. The strong winds from the sea didn't allow anyone to sleep.

Midnight passed. Eventually the rain and wind stopped and a silver ray was about to be seen in the sky. I was sleeping in my cabin. It was about four in the morning and Dhara was calmly lying in the calm sea.

Suddenly there was a huge explosion and flashes of lighting. I woke up dazed in total darkness. The fire was exploding from one end of the ship. People started falling into fire like ants. There were cries for help everywhere. The only light was from the fire burning around. I saw many people running for their life. Many jumped into the sea to escape from the fire. Some were trying to free the lifeboats. No body had any idea what was happening. My mind was blank. I didn't know what to do.

The first thing that came to my mind was my own safety. I jumped out of my cabin and ran to one end of the ship without any idea where to go and if at all I will live another day. "Perhaps this is my fate. This is how I will die" I thought. I left everything to god and stood there.

Some lifeboats were untied and let loose as 500 people got on these boats which were made for only 50 people. Sadly, many passengers fell off and drowned as the boats were obviously sinking. Hours passed and the rescue operation came up in a slow pace. In fact, most of the people awaited their death with a blank mind.

I soon recovered from my initial shock and made up my mind to try to live. I moved to where fire had not yet reached and while passing a cabin, I saw tires of bikes and cars, one which used to be tied on to the side of the ships in those days.

"God is offering me a chance to live" I thought. I hid the tire, else somebody would over power me and take away my key to life. No mercy when ones life is at stake.

Nevertheless, I thought of Abraham and Gracy. My conscience urged me to seek them and I jumped on to the deck and looked around. There was smoke everywhere. Suddenly I found Abraham, holding to the railing and about to jump to the sea. I called him to join me and somehow with God's grace pushed him through the doorway.

Leaving Gracy and her husband to their fate I and Abraham jumped into the sea with the tire. The sea was icy cold. So cold that I wished I was back in the burning ship. Burning to death was far better than shivering to death. Only our heads were above water as the waves took us away from the burning ship through the dead bodies. We were being carried away into the deeper seas.

The cold was unbearable. I couldn't feel much of my body as it was getting numb all over. Luckily I was conscious. I could only see wine colored skies and had crazy thoughts of hungry sharks. I had heard that if human blood was spilt in the sea, sharks would come from miles smelling that. The sharks must have filled their stomach else they would have eaten me and Abraham.

At a distance, I could see the ship burning like an inferno. As we drifted to the mid seas, the day was getting brighter. It was also getting hot. It have been hours since the first explosion. I felt like diving into the sea. It was again getting dark. I thought it could be my last night on earth.

As my energy seeped away slowly, I heard an unfamiliar sound from behind. I thought it was some hungry, blood thirsty shark. I awaited my certain death.

But I was wrong again. It seemed God had other plan, he did not want me to die. It was not any shark but life saving a Japanese cargo ship, U-Ki-Maru. They got the news about Dhara's accident and came forward with the rescue mission with utmost caution.

Seeing U-Ki-Maru, life was filling in us with new hopes. We shouted and whistled to get the crews attention. For our luck, we were found. I was half dead when I was tossed onto the ship. The ship took us to Bahrain. I thanked god for saving my life. Abraham was also safe and luckily, Gracy and her husband also escaped unscratched on a rescue boat.

Here comes the end of my grand father's heroic struggle to overcome death in a ship explosion. Five decades later, as I sit in my cabin at SIMS, Lonavala, I think of those nights when my grandfather struggled to return back to life. He remains an inspiration for me to overcome any obstacle that comes in my life. In fact, he is the motivation for me to join shipping and join SIMS.

The reason for the accident is not known but as for now, Dhara is at rest in the bottom of the sea.

"Dhara" owned by British-India Steam Navigation

Mr. Wong Sai Fat (left) and Mr. Dan Sarenius welcomed by the Principal

Visiting the Integrated Gas Tanker Simulator (IGTS) room

Visitors inside the Ship-in-Campus

Viewing the Ship-in-Campus

Mr. T.S Bhal and Mr. P.P. Srivastav (left to right) from Marine Police Dept. being welcomed by Principal Mr. S. Viswanathan (most right)

Visitors touring the SIMS facilities

Mr. T.S Bhal and Mr. P.P. Srivastav signing the guest book

Visitors Applaud Eco-Friendly Campus

Samundra Institute of Maritime Studies, Lonavala, had the pleasure of having Mr. Wong Sai Fat, Senior Surveyor of ships from the Marine Department of Hong Kong and Mr. Dan Sarenius, Survey and Inspection Coordinator from the Master Mariner Maritime Department, Hong Kong to tour the campus and the unique Ship-In-Campus, the first of its kind in the world.

The visitors praised the “green campus” and expressed their appreciation for the eco-friendly facilities provided to the cadets. They left with the confidence that SIMS cadets will deliver their 1st class skills and knowledge to serve the maritime industry. Mr. Dan Sarenius, in particular, highlighted the “Safety focus environment” of the institute to imbibe the safety culture to the cadets.

In another occasion, Lonavala campus was set to inspire a new marine police training facility in Mumbai, when high ranking officials from the Marine Police department of the State of Maharashtra led by the Director General of Police Mr. P.P.Srivastav and Inspector General of Police Mr. TS Bhal toured the facility. The aim of their visit was to pick up ideas and inspirations to build a new campus to facilitate marine police training in Mumbai. Nonetheless, not only did they label the campus as a “National treasure”, they also praised the highly dedicated staff and pioneers and the level of maintenance put into the campus.

During the last quarter, the campus received a host of other visitors from the industry including Capt. Vernon J Sequeira, Manager of DNV Seaskill Services, Mr. M. Gandhi, Area Manager from Det Norske Veritas AS and Capt. Ashis Kumar Dass, Manager, Mitsui O.S.K Lines Maritime Pvt Ltd. They all left with excellent impression of the institute and applauded the quality of the facilities provided by the campus for its cadets and the eco-friendly environment in their respective visits.

World Maritime Day: Mini Marathon

Samundra institute of Maritime Studies (SIMS) cadets bagged most of the top prizes at a mini-marathon that was organized to commemorate the World Maritime Day. The race, which was part of an event to create public awareness on the available sea careers, was held on the 26 September 2010. Both Company of Master Mariners and Institute of Marine Engineers – Pune Chapter, came hand in hand to organize this successful event. A 42-strong-cadet group from SIMS participated in this event.

Amongst the top six prizes, SIMS cadets displayed their dominance by winning both the first and second prizes along with the forth to sixth spot; missing only the third position to a candidate from Tolani Maritime Institute. The mini-marathon saw more then 200 participating cadets from various Maritime training Institute from Pune and Lonavala along with a few Merchant Navy Officers of Pune.

The Chief Guest of the event was Chief Secretary Maharastra, Dr. Nitin Kareer who flagged off the race. Eventually, the competitive atmosphere was dominated by Bikramjeet Singh from SIMS, who cleared the 4km run with a timing of 14.03 minutes to cross the finishing line first. He later had the honor of receiving his trophy from Dr. Nitin Kareer.

As the event wrapped up, Chief Secretary Maharastra, Dr. Nitin Kareer mentioned his visit to Samundra Institute and its world class training facilities and praised the winning spirit the institute imparts on its students and appealed to the young students to give a serious thought on seafaring as a future career.

The 42 strong-cadet group of runners from SIMS

SIMS, Lonavala Receives Grade 1 Rating from ICRA

It is our pleasure to announce that SIMS, Lonavala, had the privilege of being awarded the Grade 1 (Grade one) recognition from the Investment Information and Credit Rating Services (ICRA) in August 2010. The Grade 1, which is also labeled as "Outstanding", is the highest grade awarded by the organization to indicate the level of quality in education imparted by the institute.

This recognition pin-point that our campus has one of the highest standardization of infrastructures, resources and processes consistent with those required for delivering the utmost quality of maritime education and training to prepare the cadets for their future endeavors ahead. Congratulations to the Faculty, Staffs and Cadets at SIMS Lonavala for achieving this great success, once again.

Other cadets who had shown excellent performance in the race were Cadet Bonny Sunil (2nd position), Cadet Ashin Joseph (4th Position), Cadet Rohan Khanvilkar (5th Position) and Cadet Ankush Sood (6th Position).

SIMS Cadets Join as ESM Officers During the Last Quarter Ending 15th October, 2010

3/O Abhayjeet Singh Dhillon

3/O Amarbir Singh

3/O Ankit Vijaykumar Bhambri

3/O Arun Kambikkakath S

3/O Dinesh Kumar Mohanlal

3/O Jasmer

3/O Kuldeep Singh Saran

3/O Nithin Narayanan

3/O Rajesh Somanathan

4/E Akash Prakash Chandran

4/E Anil Pillalamarri

4/E Ravish Vamana Pai

4/E Siddharth Ramesh

Teacher's Day Celebration
Cadets Switch Roles

Teacher's day, which falls on the 5th September was made memorable by the cadets as they came together to celebrate the occasion (Birthday of the second President of India, late Dr. S. Radhakrishnan) with two separate competitions.

A debate on the topic "**Indian seafarers are going to lose their jobs to other nationalities**" highlighted and created awareness on the job situations of Indian seafarers while the other competition involved selecting the "**Best teacher among cadets**" who took over the proxy teachers' job for the day.

The teams of Debaters

The team, who supported the motion of the debate, stressed out that it was the older generation who deserved the recognition and not the younger ones for establishing Indian seafarers as a highly professional and dependable crew on board any ship owned by owners all over the world. The speakers argued that the current generation does not seem to take the profession seriously and on long term basis and their unwillingness to giving time for training is indeed adversely affecting the quality of Indian seafarers. They also argued that certain quarter in the industry complain of Indian seafarers getting more 'expensive' when compared to the eastern European and Chinese seafarers and unless the Indian seafarers cut down on their expectation, it would be not long the market will shift towards the cheaper market elsewhere leaving the next general of Indian seafarers jobless. In fact, the bulk carrier market which was traditionally dominated by Indian seafarers has now veered towards cheaper crew in other Asian countries like China. This should be a wake up call for the Indian seafarers, they stressed.

The team against the motion, however, praised their fellow Indian seafarers; who command a high level of technical knowledge due to a strong education system. The speakers argued that demand for the number of Indian seafarers is still growing and in fact, major shipping companies have opened their recruitment offices in India. Other pointers included the high level of English language which broke the barrier for the Indians to progress as compared to other Asian countries.

Finally, it was summed up by the moderator of the debate that the designation of quality seafarers is our legacy which came from our ancestors but we should work hard enough and overcome the small shortcomings to retain our legacy and pass it to our successors.

The winners of the debate were DNS Cadets Sheriqbal Singh and Cadet Kanishk with their outstanding performance while DNS Cadets Akhilesh Rathore, Rohan Khanvilkar, Athul M & Cadet Utkarsh Mishra (4 Yrs B Tech.) adjudged the 'Best Teachers among the Cadets' that was held at the respective classes.

The debate, judged by senior faculty members Mr. Biju Baben, Capt. Anil Mehta, Capt. Shukla & Mr. A. Wakankar, was set up to create an awareness amongst the cadets on their future professions. Principal Mr. S. Vishwanathan handed over the awards and certificates.

Ganga Wins Overall Indoor Games Championships 2010

Proudly presenting the trophy

The last week of August 2010 was an exciting week in the campus as it was the indoor games finals as part of the annual inter house championship 2010. The finals were held on the 27th of August in an atmosphere of great fanfare and competitive spirits of the cadets combating over a total of 45 matches to clinch the coveted trophy.

Many cadets tried their luck and skills in the league matches of Table tennis, Chess and Carom championship. However, when the day of the finals arrived on the 27th August, it was a day only for those who have proved themselves notch above the others during the league matches.

The excitement started with the Table Tennis tables being shifted from the hostel block to the circular building along with all the game equipments. The building buzzed with exhilarating presence of supporters, participants, faculty members, lecturers and cadets. The staff members took their place and cadets spread themselves on the helical staircase.

Some of the sporty faculty members were seen trying their hands on table tennis before the arrival of the players and cadets took full opportunity to cheer their favorite teacher. Live Commentary by some cadets with their humorous quotes, kept the spectators amused.

Cadet Damandeep from Godavari House and Anuj Pratap Singh from Tapti House were the two finalists for the single category match. The ball tossed over the table like bullets from both ends. Finally, cadet Anuj won by a narrow margin after beating cadet Daman to clinched the championship trophy.

In the TT doubles, DNS 10 cadets Arun Shaji & Abhishek fought an extra-ordinary battle royal to beat DNS 11 cadets Damandeep & Bikramjeet. After a see-saw battle with both teams winning one match each in the beginning, the final match became a thrilling and electrifying experience. The DNS 10 was finally the winner and The DNS 11 accepted the defeat with a hug with the opponents.

Soon after, it was time to experience something interesting as it was the faculty final match between Capt. Sanjeev Ranjan and Capt. Vivek Tyagi. The match started emotionally with a hug, and ended with one. Technically, it was a match of equal talent and skill.

Simultaneously, a Chess Final was being played where cadet Akhilesh Rathore of Kaveri House and Sandeep S of Tapti House showed their prowess and skill as strategists. Although Cadet Sandeep arrived with a slight psychological advantage, it was cadet Akhilesh who dominated from the beginning and defeated his opponent after a good battle.

Carom Doubles were played between Ganga House represented by cadets Anand Rana & Anurag Tripathi and Kaveri House represented by Anuj Garg & Shailesh. The players and viewers were deeply engrossed, in following the progress of this contest. SIMS witnessed an exciting final where Ganga House was declared winner of the match.

Ganga House players kept the hopes of their fans with continuous effort and were declared overall Champion for Indoor Games 2010. This was followed by the prize distribution ceremony for winner and runner up teams.

Thanks to all our staff members who very sportingly took part in the competition and did grace the event with their presence and encouraged the cadets.

Visitors' Comments - Third Quarter, 2010

Congratulations for the beautiful campus developed. I have seen it growing from the time Ship-in-Campus keel was laid. Excellent place for the cadets to develop themselves. All the best.

- Mr. Dilip Mehrotra, Deputy Chief Surveyor, Directorate General of Shipping

Many thanks for the presentation of the campus. Safety is in the focus. The environment has a centre place of the institute. Best regards.

- Mr. Dan Sarenius, Survey & Inspection Coordinator, Master Mariner Maritime Dept., Sweden

Surely a first class campus where students will enjoy the facilities & environment provided for their studies. Surely also that the students graduated will deliver their first class skill & knowledge to serve the maritime industry.

- Mr. Wong Sai Fat, Senior Surveyor of Ships, Marine Dept, The Govt of the Hong Kong Special Administration Region

Eco friendly, Beautiful, Green campus developed & maintained in top form. Met the faculties; very helpful & knowledgeable in their professionalism. I wish them all the best in their enterprise in the training of merchant navy people.

- Shri. P.P. Srivastav, Director General of Police Maharashtra State Police Housing & Welfare Corp. Ltd.

It's marvelous institute. Being pioneers in maritime training in the private sector, it's a national treasure. Excellently planned & use of place had been done meticulously. Besides its building maintenance is also been taken care of though its 6 years old. But it looks as a new. It was a great pleasure to interact with the highly dedicated staff and pioneers.

- Shri. Bhal. T.S, Inspector General of Police Maharashtra State & General Manager of D/S Police Housing Corporation

There have been a lot of new additions to the institute since my last visit which are commendable. Thank you once again for the great hospitality bestowed to us.

- Capt. Vernon. J. Sequeira, Manager – India & Sri Lanka, DNV Seaskill Services

Many thanks to you for giving me an opportunity to visit your eco-friendly campus. To sum it up – very impressive. I wish you continued success and growth as you save the community through education. Good luck!

- Mr. Harmohindar Singh Gandhi, Area Manager – India. Det Norske Veritas AS

Very much impressed. Hope all your boys will become good seaman. Excellent faculties and facilities.

- Capt. S. Iwamoto, Director, Mitsui O.S.K. Lines Maritime (India) Pvt Ltd

Facilities are impressive and mostly done and developed in-house will surely help transfer of knowledge from seniors to new comers as well as seafarers.

- Capt. Ashis Kumar Dass, Manager – Training Mitsui O.S.K. Lines Maritime (India) Pvt Ltd

EXECUTIVE SHIP MANAGEMENT PTE LTD (ESM)

A CLASS ABOVE THE OTHERS

WITH THE PERFECT CARDS IN OUR HANDS ONLY WE CAN OFFER THE PERFECT DEAL

www.executiveship.com

ESM is uniquely committed to manning its ships only with very high calibre seafarers who are trained in our world class maritime training institute -

SAMUNDRA INSTITUTE OF MARITIME STUDIES (SIMS), MUMBAI & LONAVALA

Approved under Indian Maritime University (IMU) and Directorate General of Shipping, Govt. of India

EXECUTIVE SHIP MANAGEMENT PTE LTD, SINGAPORE

5 Shenton Way, #20-00, UIC Building, Singapore 068808

Tel: (65) 63240500 Fax: (65) 63244544 Email: esm@executiveship.com Website: www.executiveship.com