

It's the Little Things...

By Shannon Smith

If you were to take a trip to Africa, would you be more concerned about getting trampled by an elephant or bitten by a mosquito? The odds are very slim for getting trampled by an elephant, but the World Health Organization estimates over 600,000 people died from Malaria in 2012 alone. According to the report, the most common and effective methods of prevention are use of insecticidal nets and indoor spraying.

What does this have to do with health and safety? The same principle applies: It's the little things that can hurt you, and prevention is usually very simple.

TDI-Brooks has put several mechanisms in place to protect workers from injury: Safety Management Manual, Job Safety Analysis, Permit to Work system, Safety Observation cards, PPE Matrix, proper PPE on the work sites, computer based and in-person training, mentors for short service employees, STOP WORK authority for every worker and signage all over the vessels. So why do we keep making the same mistakes?

In the last three audits, every auditor found sight glass valves open on the vessels. In one case, it was directly under a sign stating, "KEEP SIGHT GLASS VALVES CLOSED". Other audit hits this year include lift gear not properly inspected and painted the current year's color, grinders found on several occasions without guards, permitted work going on without a permit, safety signage being ignored and obsolete Energy Isolation permits still posted on equipment that was being used.

It's time to participate in your own safety. Do your part for the safety of yourself and your shipmates. If you see a trip hazard, move it. If you see someone working without PPE, bring it to them. If you are doing permitted work, get the permit completely filled out and signed first. If you see equipment that is broken, damaged or not working as it should, notify engineering.

Filling out a safety card is a good way to report these issues and get them addressed by the appropriate department. Safety cards will be reviewed by the bridge during the vessel safety meetings. If maintenance is required, an NS5 work order will be created. If something needs replacement, a Resupply Order will be turned in.

In the following article, you will see how a series of little problems turned into almost half a million dollars in damage and six injuries. Let's start fixing the seemingly little things and avoid a bigger incident or injury.



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Shannon Smith
Assistant HSE Mgr.

Got Something to Share?

If you have an idea for an HSE safety topic, a way to improve our processes or procedures or other suggestions, comments stories or pictures, send them to HSE@tdi-bi.com.

TOP 3 Safety Card Hits

(Fleetwide this month)

Housekeeping	4
PPE	2
Tools and Eq.	2

“The Jenga Model of Safety”

NTSB report states: “American Dynasty was approaching the graving dock at Esquimalt in British Columbia, Canada, when it lost electrical power and propulsion control. The vessel veered off course and collided with a Canadian Navy frigate, HMCS Winnipeg, moored nearby. Both vessels sustained extensive structural damage, and the naval pier required repairs. Six shipyard workers suffered minor injuries.”

Here’s the backstory: The engineer had the emergency generator in harbor mode, so it could not start in the event of power loss. The pilot boarded the vessel and asked the Master to shut off both main engines and radar. At just this time, the engineer took an ill-timed bathroom break. The captain called the engine room and said he was transferring propulsion control to engine room. The oiler answered and had never accepted propulsion control. He asked the electrician, who told him to push a button on the CP panel.



The Master assumed he had spoken to the engineer, who knew to shut off the main engines first. The oiler didn’t. The oiler pushed the button and went to the machinery space to stop an ongoing fuel transfer. The engines were clutched in and turning the propeller shaft. Vessel was going 1.6 knots.

On the bridge, the Master shut off navigation equipment, both steering pumps and bow thruster motor. Fifteen seconds later, the vessel experienced a complete loss of electrical power. The auxiliary generator was still running, but the breaker that tied the power to the main electrical power bus had been tripped open.

The engineer was in the head when the power went out and quickly returned to the engine room to reconnect the auxiliary generator, but couldn’t because it was still in harbor mode. The Master noticed the prop wash and sent a crewman to the engine room to find out what was going on. (Didn’t use the radios or sound powered phone nearby.)

Meanwhile, the boat’s speed was increasing and it was drifting toward other vessels. The Master tried to use the towline to turn the bow, but the towline parted. The towboat Master tried to slow the vessel with his tow winch, but the brake failed. Then the Master ordered the anchor dropped and tried to sound the horn, but the horn didn’t work.

Speed was now up to 5 knots and headed straight into the vessel Winnipeg. It struck the Winnipeg, damaging the vessel and the pier and injuring six shipyard workers.

Investigation found that the engine’s magnetic sensor failsafe has been bypassed, preventing the engine from shutting down as it should have. In addition, the relief master was unfamiliar with the vessel, he and the engineer had not come up with an arrival plan or evaluated the risks if power was lost. The maintenance system did not plan for long term maintenance of critical systems.

Oh, and no one thought to try the main engine emergency stop buttons on the bridge console. Damage was estimated at \$450,000. Read the full story by Bob Couttie at <http://maritimeaccident.org/2015/02/american-dynasty-lesson-rich-for-learning/>.

Section of the American Dynasty's bridge console with red emergency stop buttons. (Photo by NTSB)



NTSB's Statement of Probable Cause

"The National Transportation Safety Board determines that the probable cause of the collision between the American Dynasty and the Winnipeg was the **insufficient planning** between the American Dynasty's master and chief engineer regarding vessel arrival procedures and emergency maneuvering, and the **poor crisis communications** between the bridge and the engine room. Contributing to the accident was the status and **condition of the ... emergency generator and emergency batteries, which were not prepared to supply power at a critical time.**"

Safety Tips

General Tips for Safe Vessel Transits and Emergency Maneuvering

Before a vessel transit, establish a plan outlining procedures and expectations for departure, arrival, and key points along the way. Plan ahead for potential emergencies and how to resolve them. Have critical stations manned by qualified personnel at key points in the transit. Always be prepared to act when necessary.

Pay close attention to the following factors. Test your systems,¹ and train your crew accordingly:

- Auxiliary and emergency equipment is set to activate automatically should your primary equipment shut down. It should be well maintained and up to date.
- Emergency batteries are in good condition, charged, and tested.
- Various alarms and shutdown mechanisms on board the vessel are set to activate properly in an emergency. The whistle should function correctly.
- A functioning backup system is in place for communicating should your primary method fail, and everyone knows how to use it.

¹ Consult 33 Code of Federal Regulations 164.25 for more detail re. equipment testing