



INTERNATIONAL GAS SUMMIT 2016

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LNG FOCUS



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Anti-Piracy Barriers

*Safeguarding Seafarers
Worldwide*

Presentation to

**International Gas Summit (LNG Focus) NICE
November 2016**

Layered Ships Defence: Non lethal
options – Guardian Maritime

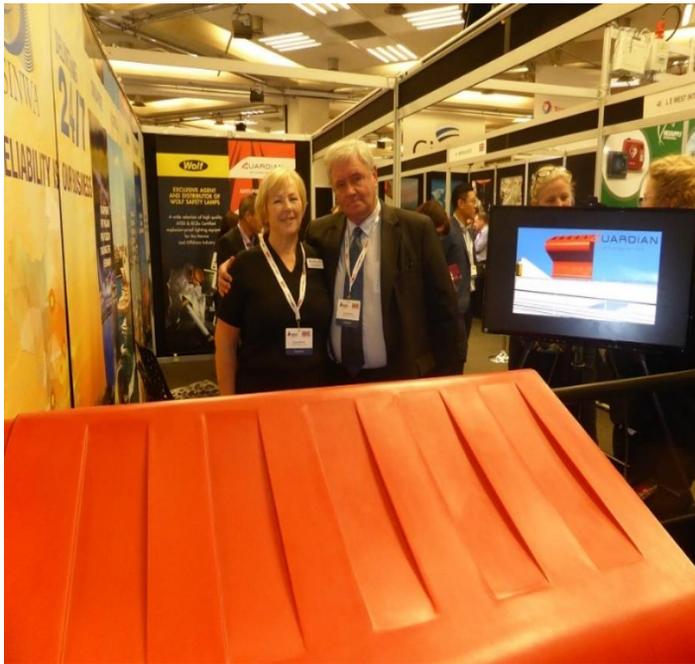
**FIT AND FORGET
ON DUTY 24/7 365**



Intentions

- Who are we
- Clients
- Pirates View
- How are we doing
- LNG Cost Comparison
- What is Guardian
- Advantages of Guardian
- Does Guardian Work
- Cost
- Pirates Perspective
- Adaptability
- Patent

WHO ARE WE



GUARDIAN was the brainchild of Teresa. She realised that, rather than focusing their efforts on trying to remove pirates from ships, the key was to make it impossible for them to get on board in the first place.

GUARDIAN anti-piracy barrier has been awarded the prestigious Horners Award for Plastics Design and Innovation. The award is believed to be the longest established Design Award for Plastics in the world, dating back to the first competition in 1947



Clients

- **Maersk Line**
- **Maersk Line Chartering**
- **Maersk Offshore**
- **UK Ministry of Defence approved supplier**
- **Chevron (LNG/VLCC)**
- **CMA CGM**
- **CMA Ships (UK)**
- **BW Offshore**
- **Maran Tankers**
- **Transocean Deepwater**
- **Anadarko Offshore**
- **BW Tankers**
- **Nobel Drilling (New Zealand)**
- **Norbulk**
- **FASL Nigeria FPSO**
- **Sea Tankers**
- **AL Jurf / Total**
- **Africa Lines**
- **Sovereign Global**
- **BW Ship Management (Singapore)**
- **Rickmers Ship Management (Singapore)**
- **Bernhard Schulte Ship Management (Germany)**
- **Maran Gas**

PIRATES VIEW



GUARDIAN

anti-piracy barriers

The first credible alternative to razor wire
Safeguarding seafarers worldwide

\$77 billion

Combined estimated value of GUARDIAN™ protected vessels and cargo

0.000006%

Percentage of total protected value for a single day, against cost of installation



GUARDIAN™ PROTECTS

Vessels made up of Tankers, Container ships, Oil drilling ships & assorted Ancillary ships



209
vessels



GUARDIAN™ PROTECTS

Vessel value protected by GUARDIAN



\$22
billion



GUARDIAN™ PROTECTS

Total estimated value of cargo protected by GUARDIAN on any given day



\$55
billion



GUARDIAN™ PROTECTS

Total estimated number of seafarers protected by GUARDIAN on any given day



4000
seafarers



GUARDIAN™ PROTECTS

Total installation cost of GUARDIAN on 209 ships



\$4.5
million

Figures calculated as at 31st October 2014, and are estimated based upon:

- The figures are arrived at by assuming goods in a container average value \$30,000 number of containers on a ship 10,000
- Container ship value \$75 million - Tanker ship value \$50 to \$150 million dependant on size so have used an average ship value as \$75 million
- Tanker cargo value depends on size but one taken last year had \$60 million of petrol taken. Super tanker cargo value \$150 to \$175 million



UK Patent Granted 2496757
World Patent Pending

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LNG Cost Comparison

- **Comparison for LNG operating 4 transits a year in HRA**
 - **LNG with 100 MTR Rails on Sunken/Poop Deck**

• Period	Razor Wire	Guardian	Armed Guards
• Quarterly	£1500	£1100	£5906
• Yearly	£6000	£4400	£23.624
• 5 Years	£30,000	£22,000	£118,120.00

- **The importance is our 5 year Warranty given if Guardian fit the barriers**

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WHAT IS GUARDIAN



**DETER
DEFEND
DEFEAT**

WHAT IS GUARDIAN

- **GUARDIAN™ works by covering the ship's safety rails with a specially designed barrier. Once installed, GUARDIAN™ provides a robust and simple way of making access to the ship, rig etc. as difficult as possible.**
- **Extensive research has been carried out to achieve the ultimate profile and composition for GUARDIAN™. A roofing ladder cannot take hold and even if a grappling hook managed to gain purchase somewhere on the deck, the profile of the GUARDIAN™ makes it virtually impossible to climb over.**
- **GUARDIAN™ is manufactured by one of the world's leading manufacturers of plastic products. The units are designed with a high level of UV protection, are resistant to a wide range of chemicals (acids, alkalis, oils etc.) and will remain robust over the temperature range experienced by vessels. The polymer does not absorb water, so is ideally suited to a maritime environment.**
- **GUARDIAN™ is manufactured in 1000mm wide sections that lock together – clamping onto the safety rail to provide a strong and rigid structure. During installation, GUARDIAN™ units are tailored to fit around fairleads and unique structures. A single unit or section can be removed or refitted in minutes, for operations such as mooring or vessel maintenance.**

WHAT IS GUARDIAN



Fitting over vessel own barriers

Roofing Ladders can't take hold

Robust over temperature range

Withstand high sea states

1000mm barriers tailored to fit



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WHAT IS GUARDIAN



GREEN WATER UNITS



ADVANTAGES

- **It is a highly visible deterrent.**
- **Provides crew a level of invisibility on deck.**
- **It is safe for the crew to handle – reducing injury and lost working time. No injuries reported since installation started.**
- **It can easily be swapped between vessels of the same class.**
- **The units are recyclable – making them environmentally friendly.**

ADVANTAGES

- **To protect ships from attacks by pirates at sea or at anchorage, and prevent stowaways boarding in port.**
- **To protect mariners from not only the perils of piracy but also injuries inflicted on mariners during the course of their duties by defences such as razor wire.**
- **Guardian reduces the workload of mariners.**
- **In being permanently installed Guardian provides a highly visible deterrent to pirates, that security of the ship is taken seriously by the owners and the crew without the need to remember to prepare for entry to HRA waters. On duty 24/365 it removes the chance of a surprise attack.**
- **In achieving 1-4. Guardian reduces costs to the ship owners substantially when compared to any other anti piracy system.**

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DOES GUARDIAN WORK

- You can access a film on our website www.guardian-maritime.com of ex Royal Marines trying to defeat Guardian, after 2 hours they gave up.
- Israeli special forces have also tried and failed to defeat Guardian
- On 5th May 2013 the CMA CGM Africa Four was attacked by pirates in the Gulf of Guinea, she was protected by Guardian and the attack was unsuccessful, the same pirates took the Frio Athens in the same location a few hours later.
- There have been two further attacks in the Gulf of Guinea by pirates they also failed.
- On 20th November 2013 Greenpeace were unable to board the Noble Bob Douglas off the coast of New Zealand, she was a drillship protected by Guardian. Below is the link to the news film.
- <http://www.maoritelevision.com/news/regional/noble-bob-douglas-drops-anchor>

DOES GUARDIAN WORK

TESTIMONIAL

Note

- Below is a report on Guardian by a British Master of Large Gas Carrier with home base in the Far East, the company has a no recommendation policy as most shipping companies do but are prepared to allow use of the report as long as the company, ship, and Master are not identified.

Report

- Guardian was initially installed on the vessel in August 2013, the installation took four days and was done while at anchorage in Fujairah.
- Since the removal of razor wire and installation of Guardian the crew have had no injuries from operational preparations such as port arrival or departure. The Guardian units which cover operational equipment are easy to remove and re-install taking only minutes for each operation.
- The moral of the crew is much better both when working with the Guardian system and in their attitude to potential piracy attacks; they feel safer when passing through piracy areas and this is reflected in the attitude to their duties.
- It is noticeable that they are less tired after port preparation operations than they were when they had to remove all razor wire from the vessel before Guardian was installed, and are therefore better able to carry out their normal duties.
- As expected the ratchet securing straps do require some maintenance such as regular oiling but in general work well. We have had one of the Guardian units damaged in very heavy seas; this was the foremost unit on the poop deck and had been modified to fit the end of the rail section where it joins the rising bulwark. This was easily replaced with one of the spare sections taken aboard when the system was installed.

Conclusion

- The system is ideal for protection of my ship from piracy attacks, in the time it has been installed there have been several events of pirate type skiffs approaching the ship but all have resulted in no action by the skiff occupants. The system is easy to use and work with and importantly stress free to the crew and officers. It has also been the subject of numerous inspections and comments by pilots and port officials.

Best regards

Master

GUARDIAN

DOES GUARDIAN WORK



Guardian has
been
installed in
Sea State 8

Due to design
Guardian has
been reported
to withstand
Sea State 10



DOES GUARDIAN WORK STOWAGE



If required
Guardian can
be removed
and stowed
as shown

During
installation all
units are
numbered for
easy re-
installation



COSTS

- The following are example costs for three types of vessels.
 - **LNG/VLCC (Sunken/Pool Deck Only)**
£22,000
 - Container (Pool Deck Only) £15,800
 - Chemical or Product tanker (250 Units)
£36,650
- Other vessel type can be quoted upon supply of GA drawings

COSTS

WHAT YOU GET FOR YOUR MONEY

- **Pre-Survey (available if required)**
 - **All Equipment and Installation**
 - **Warranty for 5 years (if Guardian install the product, fully recommended)**
 - **Anti-Piracy Training during installation**
 - **Condition monitoring check every 12 months**
- 
- The background of the slide is a photograph of a ship's deck. A red lifebuoy is mounted on a red metal structure. The deck is dark green with a yellow circular mark. The ocean is visible in the background.

GUARDIAN

**COSTS
FITTED**

by Guardian installation team



15. 7. 2015 7:13

12. 7. 2015 8:55

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COSTS FITTED BY GUARDIAN FISHPLATE



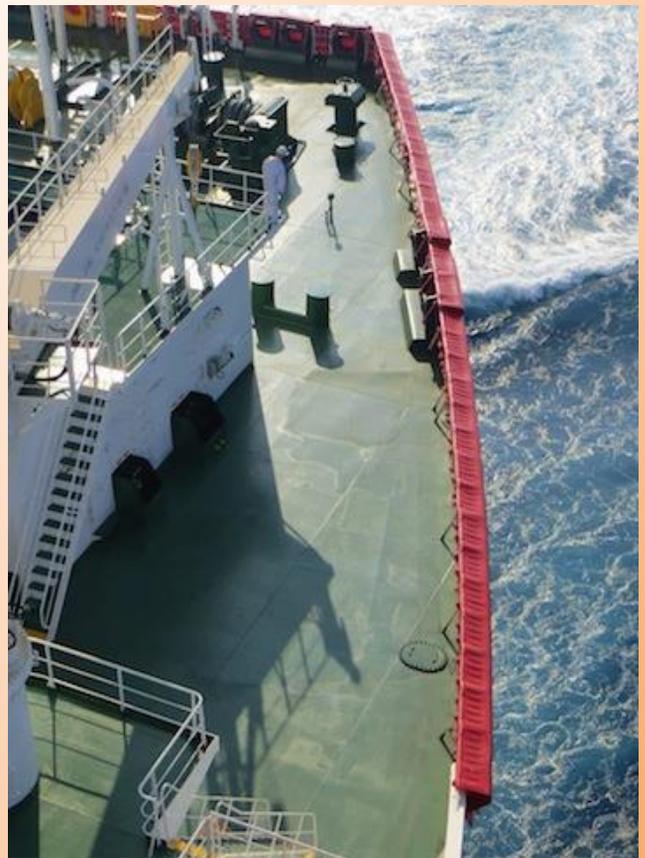
POOP DECK ONLY

Perspective from the bridge

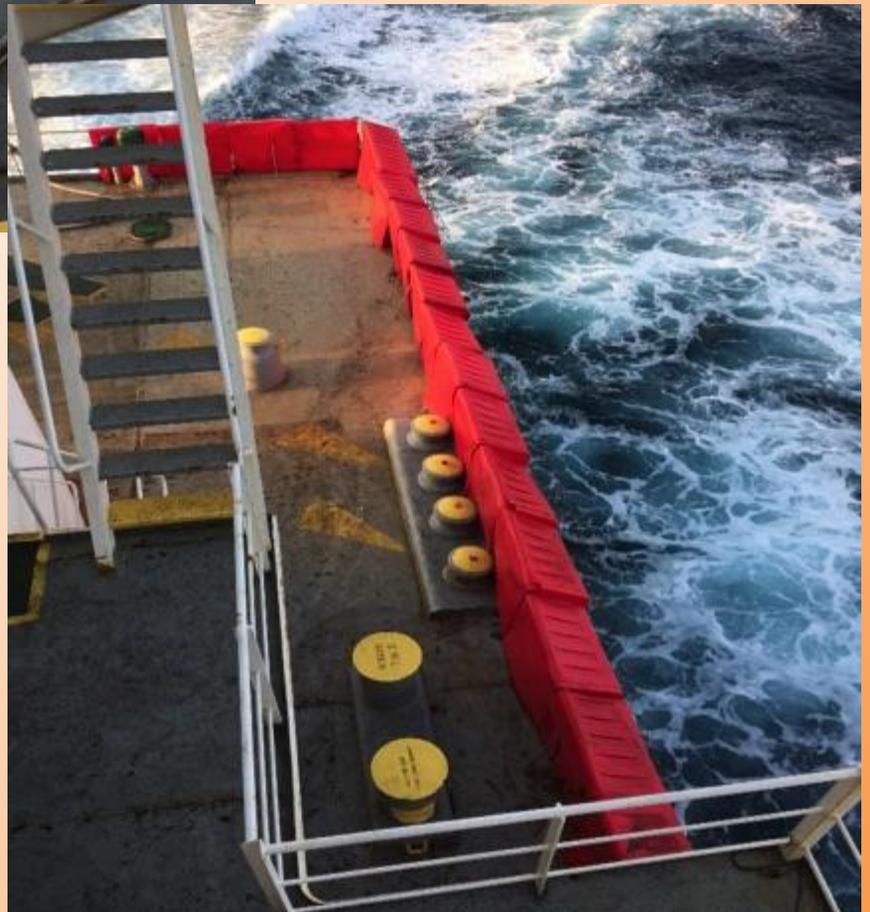
Before Guardian



After Guardian



SELF-FITTING PIT FALLS



PIRATES PERSPECTIVE

Note the unit removed for rope access



ADAPTABILITY

Poop deck corner Guardian adapts to any profile



The Director of the United States
Patent and Trademark Office

PATENT

I hereby grant to you an application for a patent for a new and useful invention. The title and description of the invention are enclosed. The requirements of law have been complied with, and it has been determined that a patent on the invention shall be granted under the law.

Therefore, this

United States Patent

Grants to you the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States of America or importing the invention into the United States of America for the term set forth below, subject to the payment of maintenance fees as provided by law.

If this application was filed prior to June 8, 1995, the term of this patent is the longer of seventeen years from the date of grant of this patent or twenty years from the earliest effective U.S. filing date of the application, subject to any statutory extension.

If this application was filed on or after June 8, 1995, the term of this patent is twenty years from the U.S. filing date, subject to any statutory extension. If the application contains a specific reference to an earlier filed application or applications under 35 U.S.C. 120, 121 or 365(c), the term of the patent is twenty years from the date on which the earliest application was filed, subject to any statutory extensions.



Director of the United States Patent and Trademark Office

- **UK - GB2496757**

- **Other countries with Granted Patents**

- **China**

- **Europe**

- **Malaysia**

- **Singapore**

- **South Africa**

- **USA**

- **Pending Patents**

- **Korea**

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