As piracy attacks have become increasingly more organised, determined and co-ordinated, so too has the need for counter-measures to be more elaborate, inventive, robust and specific to the vulnerabilities of each vessel. Despite the recent success in adopting a structured and layered approach to defending a vessel, there are still some maritime security providers that consider the presence of their security teams on board to be sufficient. In the current climate that is no longer acceptable, and shipping companies, CSOs and vessel Masters are looking to deployed security teams to effect a structured series of physical barriers and countermeasures designed to complement existing procedures.

Physical countermeasures are obviously the most visible to any potential attacker, and that visual impact as a deterrent should not be underestimated. Piracy Action Groups (PAGs) are looking for vulnerable, slow moving and ill-prepared targets. Given a choice in a busy shipping lane such as the Internationally Recommended Transit Corridor (IRTC), pirates will choose the vessel they consider the easiest to board quickly. However, recent evidence suggests that piracy attacks have become more sustained, with increased resolve and adaptability from the pirates which has resulted in inadequate physical defences being breached.

The use of motherships and the expansion of the pirates’ area of operations to up to and beyond 1000nm East of Somalia and into the northern Arabian Sea has provided them with a much wider window in which to attempt boarding (up to one hour sustained attack), and therefore physical countermeasures need to be increasingly robust and effective. Identifying how best to mitigate the risk of pirates boarding the vessel is best achieved during a pre-transit security survey/assessment, with recommendations detailed prior to the vessel’s departure to High Risk Areas. Procurement, fabrication and preparation of materials are best sourced in good time, and not at the latest possible port of embarkation. Materials such as razor wire are notoriously expensive in the countries traditionally used for the security teams’ embarkation ports, such as Port Suez, Muscat and Galle. Some agents are known to exploit unprepared teams by supplying inappropriate and poor quality materials. A pre-transit security audit can identify how best to fabricate systems, to deploy defensive measures such as razor wire, fencing and stanchions that complement the security team’s pro-active role at defending the vessel, the Ships Security Plan and SOPs.

On a large vessel with a long, low freeboard (such as a bulk carrier or tanker) the physical security measures can take up to three days to prepare and construct. Specialized, more vulnerable vessels (such as cable layers, survey vessels, dredgers etc), will be more of a challenge and
could take longer. It may be that a lot of the preparation can be achieved by the crew under the supervision of the SSO prior to the security team boarding the vessel, especially if they have made a number of High Risk Area (HRA) transits previously. However, it is essential that the security team has time to work with the SSO and Master in implementing the ships’ security plan and co-ordinating the physical counter-measures to best effect. The involvement of the crew in the construction of these measures has a secondary and important role in building confidence, making them feel they are an integral part in the overall solution. The physical counter-measures should be designed so that there is a continuity with other systems, anti-piracy procedures and the SOPs put in place. This can only be achieved with close liaison between the Security Team and the Master/SSO of the vessel.

Below are a number of examples of what kind of physical countermeasures can be developed to make boarding extremely difficult and unattractive to would-be attackers. Should they manage to get on board, then there should be a series of defensive layers based around securing the vessel’s superstructure. That might include blocking or removing external stairwells, as well as other means outlined later. The intention is to impede, delay, disrupt and disorientate the pirates as much as possible and, regardless of whether the security team is armed or not, there is little point in not deploying all means possible.

As we’ve previously highlighted, specific vessels with key vulnerable characteristics need an imaginative approach to best maximise the deployment of physical countermeasures. The following example of a small, slow moving chemical tanker at 7.5 knots with a freeboard of less than a meter was considered ‘category A’ vulnerability. However, using properly sourced and quality materials within a well thought out plan we constructed physical countermeasures which gave an overall confidence to the Master and his crew, and the transit was successful.
When the passage plan involves long distances offshore (a south/north passage from South Africa up the east coast of Somalia for example), the threat posed by pirate gangs using motherships then becomes the key consideration. Coalition/military response or support is unlikely to be ‘immediate’, and the Ship’s Security Plan (SSP) for that passage should consider the possibility of a sustained attack. In such a scenario more robust physical defences are required, and time spent designing, fabricating and constructing those defences is time well spent. Stanchions fitted so that the defences reach outboard are more effective in preventing boarding. PAGs have developed methods to easily breach razor wire that is simply secured to the handrail. The examples in figures 5, 6, 7 and 8 illustrate best appropriate use of materials on a 220 meter bulk carrier.

Fire hoses are another visual indicator to the pirates that precautions have been taken. They are rarely more than a nuisance factor when deployed singularly, but concentrated at vulnerable areas (such as the quarter) and rigged correctly can act as a deterrent and impede access. Ballast pumps and fire monitors can also be used to create a water ‘curtain’ and form a useful part of layered defences. Mannequins are a complete waste of time.

These defences are constructed vertically and attached by means of a ‘D’ ring to the bottom railing, allowing them to be lowered into place and secured for the HRA transit. They can also be easily retracted in high seas, therefore minimising the risk of damage. Smaller stanchions secured by wire and turn-buckles are also effective and provide a better platform for the razor wire than merely attaching it to the handrails.
The defence of the vessel’s superstructure is equally as important as part of the layered countermeasures. The physical countermeasures aren’t limited to the defence of the main deck, and if they are breached that is only the first of many hurdles the pirates should encounter. The superstructure, accommodation and bridge are where the ship’s crew are located, and therefore the target for the pirates seeking hostages. The main deck, port and starboard quarters need specific attention as they are the most common access onto the vessel by attackers. The superstructure should be locked down with only one point of access (in case of a ship’s emergency to the life boats) and all other access doors and stairways either blocked or removed. Below are specific examples of how the superstructure section can be blocked denying access from mid-ships or forward.

The pirates are well known to be skillful and extremely determined. Once onboard they will try to make their way to the bridge as soon as possible in order to take the crew hostage. They are very accomplished at scaling the deck levels and know that the quicker they can take command of the vessel, the less effective a coalition/warship response will be. Therefore anything that contributes to slowing down and impeding their entry into the superstructure or bridge needs to be deployed. They might include, but are not restricted to:

- Greasing up external pipes
- Lifting walkway grills
- Removing and blocking stairwells,
- Extra layers of razor wire
- Securing portholes and external doors.

Physical countermeasures, constructing barriers, and deploying all means available to make the vessel look as formidable and as unattractive as a target as possible are all important. However, they are not the only factor in mitigating against a successful pirate attack. The initial sourcing and procurement of the materials can be expensive, but for vessels making regular trips through high risk areas (not limited to the Somalian coastline, i.e. West Africa, Malacca Straights and the South China Seas), the materials required can be washed down, stored on board and re-used for future passages.

While constructing the defences, consideration should be given to access to lifeboats and muster points for a ship emergency. At no point should defences restrict the access and launch of the life boats.
Having invested a lot of time, effort, resources and expense into constructing the defences, the next consideration is how best to defend them. A security team from a military background, with experience in anti-piracy and maritime operations, are best placed to provide an active role in the defence of the vessel. Passive measures are an absolute requirement, but pirates are far more likely to disengage from an attack if there is a determined demonstration and willingness to defend the vessel from those on board. The debate on whether to deploy armed security teams still continues, but the success over the last three years of Private Contract Armed Security Personnel (PCASP) is undeniable. The security team’s role is not to find a solution to the entire piracy problem in the region, but to deliver the best possible defence for that vessel and the crew they have been tasked to escort through the High Risk Area. Pirate tactics are always adapting, and recently there have been a number of examples where the PAG has continued and sustained its attack, in the knowledge that there is an armed security team on board and willing to engage the team in a firefight.

It is also worth noting that it is in the security team’s own interest to ‘go the extra mile’ in defending the vessel. It is well documented that no vessel has yet been taken while an armed security is onboard, and we desperately hope this statistic continues because the dynamics would change very quickly if a vessel with armed guards was successfully hijacked. They would not be treated in the same manner as a captured crew, and would probably raise the tempo of any negotiated release...at best! It is therefore very important that the security team are allowed to conduct their immediate actions knowing that the ship’s crew are fully mustered and accounted for in the citadel. Therefore a well equipped citadel and carefully planned citadel procedures are key to the SOPs, regardless of whether an armed security team is deployed or not.

Category ‘A’ Vulnerability

Some vessels, by the sheer nature of their characteristics, are more vulnerable to attack. Those engaged in specialist tasks (such as surveying, dredging or towing), or with a low top speed and a low freeboard, make them a potentially favourable target. The example below (figure 15) requires both well thought out defences and an armed security on board. It would be foolhardy, and totally irresponsible, if the ship owners/operators did not commission a pre-risk survey on such a vessel.

Figure 15
Ultimately, the ‘stand alone’ dedicated escort patrol boat provides the elite security solution for specialist vessels and cruise liners. There are maritime security providers who operate patrol boats throughout the region.

The pirate gangs were ruthless and, having successfully boarded this vessel, they were unable to identify the citadel and therefore take any of the crew. Frustrated at having their efforts thwarted, they set about trying to sink the vessel by setting it on fire, an attempt no doubt, to force the crew to surrender. The crew stuck to their procedures and the pirates had to abandon the vessel before military intervention. It also illustrates that the proper execution of the citadel drills is an essential element of the SSP.

Watch Keeping

The early detection of a possible pirate attack remains the best defence against a successful attack. Vigilance on behalf of the crew, dedicated anti-piracy sentries and security teams on a 24-hour basis is the first and most important step in mitigating against the risk of a successful piracy attack. Early detection allows the OOW/Master and security team to evaluate the risk and initiate the ships anti-piracy procedures. If a pirate ‘commander’ observes a ship which is maintaining a visual level of alertness and demonstrating a degree of timely response to (his) suspicious activity, then he is more likely to target another vessel and your ship may not be attacked.

The overwhelming evidence is that if proper SOPs are established, drilled and exercised, if suspicious activity is acted upon early and the vessel demonstrates a willingness to defend itself, then a piracy attack will not be successful. It is essential and should be stressed in a separate brief to watch-keepers the critical importance of early detection and techniques of effective watch-keeping, so everyone is clear as to their duties and responsibilities. It is simply not enough for crew to be safe if they are to function properly and carry out their duties, they must perceive themselves to be safe as well. For all crew not involved in bridge watches and ‘locked down’ in the superstructure, they must be confident that those given the responsibility of watch-keeping are vigilant and doing their job.

Until recently, the various military initiatives and assets in the area (EUNAVFOR, NATO, CTF150 and UKMTO) all publicly discouraged the use of armed security teams, but our experience is that we have always had a good working understanding and relationship when reporting and registering with them. The IMO now recognises that shipping operators are increasingly looking toward the ‘armed solution’, and have (while still not endorsing the use of PCASP) have issued a revised document on guidelines in contracting armed providers (MSC.1/Circ.1405/Rev.1 and MSC1/Circ.1406/Rev.1).

Just to highlight the importance of structuring the Ships Security Plan (SSP), physical security measures, briefings and drills, I’ve included examples of what can happen when the pirate gangs get the upper hand. The photos below illustrate two important yet separate elements. Firstly, security measures are expensive. There is an extra work burden on the Chief Officer, fitters and crew, with considerable logistical efforts from the shore-based management. However, these considerations become insignificant when the pirates get the upper hand, especially because of the human psychological trauma caused by being exposed to a prolonged hostage situation.