



BIMCO

Guidelines

on

Ship and Voyage Specific Risk Assessment (SVSRA)

1. Introduction

For the purpose of identifying the suitable measures of prevention, mitigation and recovery in case of a piracy event against the ship, a ship and voyage specific risk assessment (SVSRA) is recommended in Section 3 of the Best Management Practices (BMP4).

BMP4 briefly mentions that such a ship and voyage specific risk assessment entails combining statutory requirements with additional anti-piracy measures, but does little to explain what this means. This article aims to explain in greater detail what the intention behind this wording in BMP4 was, and to give some guidelines as to how an SVSRA could be carried out.

2. The SVSRA

Not unlike the Ship Security Assessment described in the ISPS Code, the SVSRA should include considerations on the following:

- a) The threat (who are the pirates, what do they want to achieve, how do they attack, how do they board, which weapons do they use etc.?).
- b) Background factors shaping the situation (visibility, sea-state, traffic patterns e.g. other commercial ships, fishermen and human traffickers etc.).
- c) Possibilities for co-operation with e.g. military (convoys, group transits, registering with authorities etc.).
- d) The ship's characteristics/inherent capabilities to withstand the threat (freeboard, speed, general arrangement etc.).
- e) Ship's procedures (drills, watch rosters, chain of command, decision making processes etc.).

As mentioned in BMP4, the SVSRA should take into consideration any statutory requirements. Some flag states – e.g. the United States through the US Coast Guard – have issued national regulations, whereas others have not. Other requirements dictated by e.g. company policies and insurance policies should be taken into consideration too.

In reality, much of this analysis can be said to exist already in BMP4, because the BMP4 provides an overall list of which actions to take. What is needed in the SVSRA is a transformation of the overall guidance in the BMP4 into specific actions to take and self-defence measures to apply, applicable to the individual ship on the individual voyage. To assist this process, it is useful to look first at how a piracy incident unfolds and secondly at how effective the individual self-defence measures are. A clearer understanding of how a piracy incident unfolds can help guide the SVSRA and can make it easier to identify which measures are the most efficient when it comes to preventing or defeating a piracy incident. It is

important to note, however, that for most ships BMP4 is not regarded a list from which to pick and choose from; rather it is a set of measures which should be applied by most ships when navigating inside the high risk area, if at all possible.

3. The piracy incident chain of events/phases

A piracy incident can be said to consist of a sequence of four events or phases: "Detection", "Attack", "Boarding" and "Taking control of the ship and crew".

Detection → Attack → Boarding → Taking control of ship and crew

Above: The chain of events describing a piracy incident

Breaking this sequence of events will prevent the pirates from reaching their objective, which is the hijack of the ship. For obvious reasons, the sequence of events should be broken as early as possible.

Avoid detection: stay away from pirates

The first event in any piracy incident is the detection – that event where the pirate detects the target. If the ship can avoid detection entirely, the pirates will not be given the opportunity to attack and thus the piracy incident can be avoided entirely. A series of measures can help the ship avoid detection by pirates. The most obvious one is to stay outside the area where the pirates operate, but establishing an overview of the whereabouts of pirate action groups and the last known positions of attacks in an area can also be an effective mitigating measure.

Avoid attack: discourage the pirates

The second event is the attack itself. After the target is detected, the pirates will have to make a decision whether to attack or not. Such a decision will be influenced by many factors, some of which the ship has a good chance of influencing and some which the ship has little or no control over, e.g. the immediate presence of other and to the pirates more attractive targets. Those factors that the ship is indeed in control over are those which can discourage the pirates from attacking because the ship represents too difficult a target. All the visible self-defence measures are part of this category, together with the utilisation of rough weather which by definition makes it more difficult for the pirates to attack.

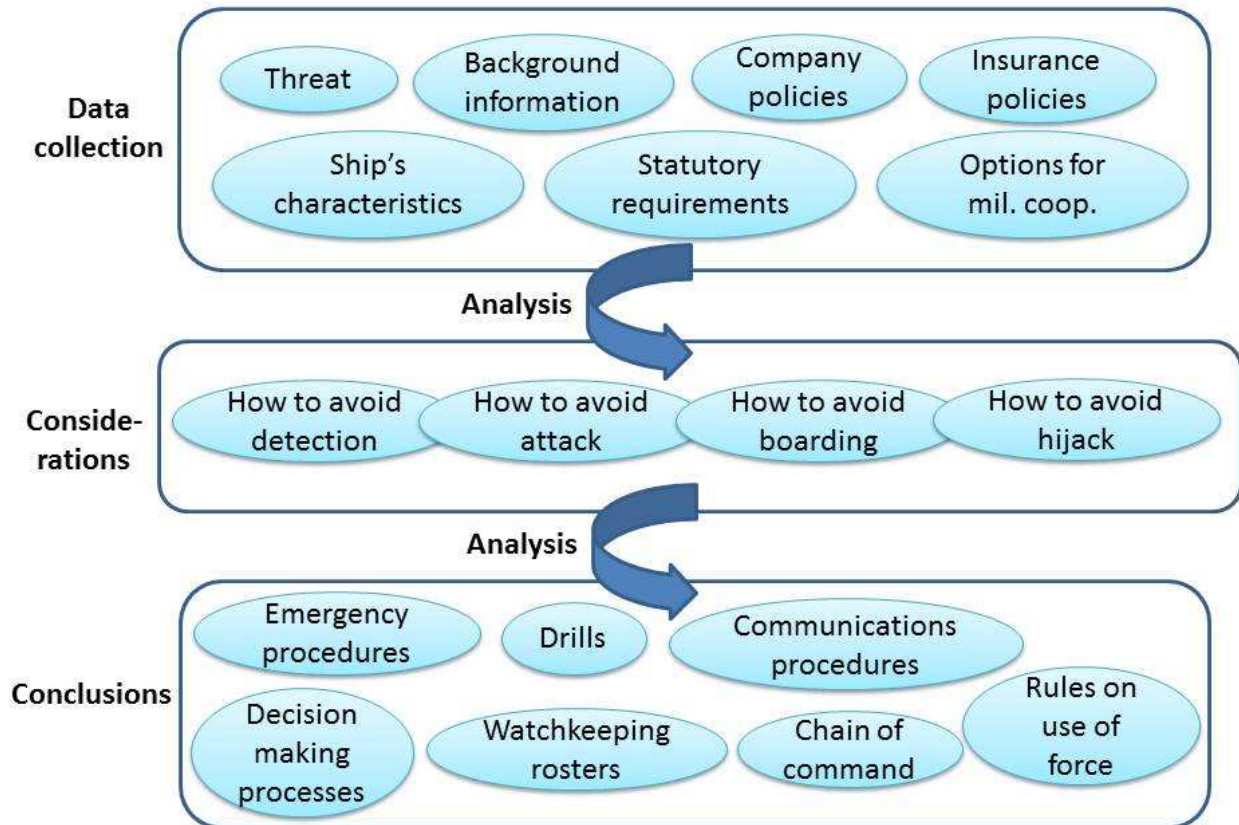
Avoid boarding: defend the ship

If the pirates have not been sufficiently discouraged they will attack the ship, and from that point in time the focus of the ship is to prevent the ship from being boarded. Many of the self-defence measures applicable to avoid boarding are actually the same that could help prevent the attack, but there are additional ones such as e.g. hardening the bridge and the superstructure to withstand weapons fired and taking precautions to minimise the risk when the pirates fire their weapons. At this point in the sequence of events the time factor is crucial. If the ship can be defended long enough for a military unit to arrive on the scene, the pirates will often give up their boarding attempts. The chance of a military unit getting there in time is biggest in the Gulf of Aden, where the warships are present in greater numbers than in the Arabian Sea and Indian Ocean.

Avoid hijack: maintain control of ship and crew

If it has not been possible to prevent the pirates from boarding the vessel, the pirates will aim to take control of the ship and the crew as quickly as possible. Here too, time is of the essence. If a military unit is nearby there is a good chance that it will try to influence events, either by merely showing their presence and inspire the pirates to surrender, or – if the crew is confirmed secure inside a citadel – perhaps by launching a rescue operation.

4. SVSRA



Above: The SVSRA process

There is no text book answer as to how an SVSRA should be carried out, but one way of doing it is to look at each of the phases/events in the piracy incident chain of events, and analyse the implications for the individual ship on the individual voyage. As described in the introduction, the SVSRA should take into consideration the following:

- The threat (who are the pirates, what do they want to achieve, where they attack, how do they attack, how do they board, which weapons do they use etc.).
- Background factors shaping the situation (visibility, sea-state, traffic patterns e.g. other commercial ships, fishermen and human traffickers).
- Possibilities for cooperation with e.g. military.
- The ship's characteristics/inherent capabilities to withstand the threat.
- Ship's procedures (drills, emergency procedures incl. communications).

Information on the threat (a) can be found in BMP4 plus by reviewing various other sources such e.g. military websites and the IMB website (see BMP4 for references). It is important to get a clear picture not only of the pirates' *modus operandi* but also of developments in the pattern of the latest attacks (where, how, when). All this information should be analysed to draw initial conclusions, and is furthermore necessary to form the basis of the rest of the analysis.

The background factors (b) are important because they can be exploited by the pirates as well as the ship. For example navigating through dense traffic of fishing vessels can make it very difficult to identify pirate vessels, and may shorten the period of time from the identification of the pirate threat to the actual attack. The weather too can be exploited in the sense that pirates prefer to operate under calm weather conditions, which is why consideration should be given to navigating through rougher seas simply in order to make it more difficult for the pirates to strike. BMP4 has some detail, but the experience of the crew and the latest weather reports should also be taken into consideration. Analysing the background factors will give some conclusions and will also inform the rest of the analysis.

The possibilities for co-operation with the military (C) should be studied carefully. The basic information on national convoys and group transits can be found in BMP4, but for the latest convoy schedules one should consult the MSCHOA website.

The ship's inherent capability to withstand the threat (d) – or perhaps more importantly **not** withstand the threat – is another important factor. In the Ship Security Plan (SSP – developed as a consequence of the ISPS Code) much of the analysis is probably conducted already, but it is also important to, so to speak, step into the pirates' shoes and view the ship as a target using the knowledge about the threat to identify the weak spots. Based on the findings it will be possible to make an analysis of which self-defence measures are necessary to meet the requirements.

Self-defence measures

To assist the analysis of which self-defence measures should be applied in the given situation, Figure 3 shows a general overview of the different self-defence measures and an assessment of their efficiency in each of the phases "Detection", "Attack", "Boarding" and "Hijack". Again, BMP4 already has most of the information. Simply take one phase at a time, and go through each of the self-defence measures making an assessment of whether the measure is applicable to your ship on the voyage in question, or not. Remember, that – as a general rule – the self-defence measures recommended in the BMP4 should all be implemented. Self-defence measures should only be left out if they are obviously not adding any value to the defence of the ship. The analysis should take into account any statutory requirements and other requirements dictated by e.g. company or insurance policies.

Following page: Table of self-defence measures with assessment of efficiency (note 1)

Explanation: Blank = No effect; 1 = Some effect; 2 = Good effect; 3 = Very good effect

Self-Protection Measure	Avoid Detection	Avoid Attack	Avoid Boarding	Avoid Hijack
Stay outside high threat area	3+			
Navigate in rough seas	2	2	3	
Continuous area-wide threat awareness, circumnavigation	2			
Report movements to authorities	2			1
AIS and LRIT switched on	2			1
Armed Guards		3	3	1 (note 2)
Military Convoy		3	3	3 (note 3)
Massive Water Curtain		3	3	
Speed > 18 kts.		3	2	1
Commercial protection vessel		3	2	
Razor wire/Spikes		2	3	
Group transit		2	2	2 (note 3)
Eject able obstacles (e.g. timber)		2	2	
Extra lookout		2	2	
Freeboard > 8 m.		2	2	
Towed obstacles (alongside/aft of ship)		2	2	
Unarmed Guards		1	2	
Water Hoses		1	2	
Night Vision Goggles		1	1	
Evasive Manoeuvres		1	2	
Laser guns		1	1	
Sound blasters		1	1	
Dummy lookouts		1		
Hardening Bridge, restrict access			2	2
CCTV			2	1
Hardening Superstructure, restrict movements inside			1	2
Blast Film			1	
Personal Protection Gear			1	
Citadel				3 (note 4)
Deny use of ship's tools				2
Deploy smokescreen inside				2
Blacken inside of ship				1

Note 1: Effects score may vary for individual ships, and offer no guarantee. Pirates could potentially defeat any measure or combinations hereof.

Note 2: Use of armed guards increase risk of pirate violence if vessel is hijacked. It also entails criminal and liability risks in case something goes wrong.

Note 3: Only applicable if citadel is used correctly.

Note 4: Use of citadel heightens risk of pirate violence.

Implications on ships procedures

Once it is decided which self-defence measures should be applied, it is necessary to make yet another analysis to establish what the implications are to the ship's procedures. It is necessary to cover all relevant aspects such as emergency procedures, communications procedures, decision making processes, drills, the chain of command and rules for the use of force (especially if armed guards are used).

This part of the SVSRA is a comprehensive undertaking, but once the analysis has been carried out, much of the analysis will apply for most voyages through the high risk area. Furthermore, quite a lot of inspiration can likely be found in the SSP, and if possible and appropriate some of the procedures from the SSP may be applicable to counter-piracy too. Some ships are known to develop anti-piracy contingency plans as annexes to the SSP, and this may well prove to be an appropriate way of approaching the SVSRA.