

SHIP SECURITY ASSESSMENT (SSA)



The Ship Security Assessment (SSA) is to be carried out before developing the Ship Security Plan (SSP), and is a major element in the process of developing or updating the SSP. It is the responsibility of the Company Security Officer (CSO) to ensure that the SSA is carried out by persons with appropriate skills, for each ship in the company fleet. Bureau Veritas, acting as a Recognized Security Organization (RSO) may carry out the SSA. In that case, Bureau Veritas will not be the RSO undertaking the review and approval of the SSP.

The SSA shall include the following steps, which should then be adapted to each type of ship:

I) Identification of key shipboard operations

II) Identification of existing security measures and procedures

III) Identification of potential threats (refers to threat scenarios)

IV) Performance of an on-scene security survey

V) Identification of weakness in both the infrastructure and in the procedure

I) Identification of key shipboard operations

In this step, the company is to clearly identify what are the key shipboard operations with respect to security, this is to identify:

- The operations
- The systems and equipment
- The areas and spaces on-board the ship
- The crew and personnel on-board
- All elements, which can be considered as critical if, subjected to a security incident

As an example:

The critical operations may include the cargo handling, the ship stores handling, and the navigation.

The critical spaces may include the stores, the bridge, the machinery spaces including the Engine Control Room (ECR) and the steering control station.

The critical systems may include the security alert system.

The company may list these “key shipboard operations”, for each ship, and prioritize these operations:

Key Shipboard Operations	Criticality		Comments
	Low	High	
1. ACCESS CONTROL (personnel, passengers, etc.)			
1.1 Access Ladders			
1.2 Access Gangways			
Etc.			
2. RESTRICTED AREAS			
2.1 Navigation bridge			
Etc.			
3. CARGO HANDLING			
4. SHIP STORES HANDLING			
5. SECURITY MONITORING			
6. SAFETY OPERATIONS			

1.1 Key Shipboard Operations

II) Identification of existing security measures and procedures

The aim of this step is, for the company, to clearly identify and describe the existing security measures, procedures and operations.

As an example, security procedures may include (but are not limited to):

- Procedures for response to emergency conditions (fire, flooding...)
- Procedures for security patrols
- Procedures for handling surveillance equipment, if any
- Procedures for handling security communication systems
- Procedure for handling security doors, barriers and lighting

The company may list the existing measures / procedures for each key shipboard operation.

This will allow the company to identify any key shipboard operation with inappropriate security measure, inexistent, too limited or weak:

Key Shipboard Operations	Criticality		Security steps satisfactory		Comments
	Low	High	Yes	No	
1. ACCESS CONTROL (personnel, passengers, etc.)					
1.1 Access Ladders					
1.2 Access Gangways					
Etc.					
2. RESTRICTED AREAS					
2.1 Navigation bridge					
Etc.					
3. CARGO HANDLING					
4. SHIP STORES HANDLING					
5. SECURITY MONITORING					
6. SAFETY OPERATIONS					

2.1 Existing security measures and procedures

III) Identification of potential threats (threat scenarios)

In this step, the company is to clearly identify the potential threat scenarios to a ship under specific circumstances.

It is of the utmost importance that the threat scenarios that are identified as being possible remain “credible”, in order for the Ship Security Assessment to be as efficient as possible.

These threat scenarios should consequently encompass the specific features of the ship in terms of type of ship, crew, cargo, trade, area and ports. To this end, it will be useful to consider what are the possible situations, which could motivate security threats:

- Political
- Image
- Economical
- Fear driven

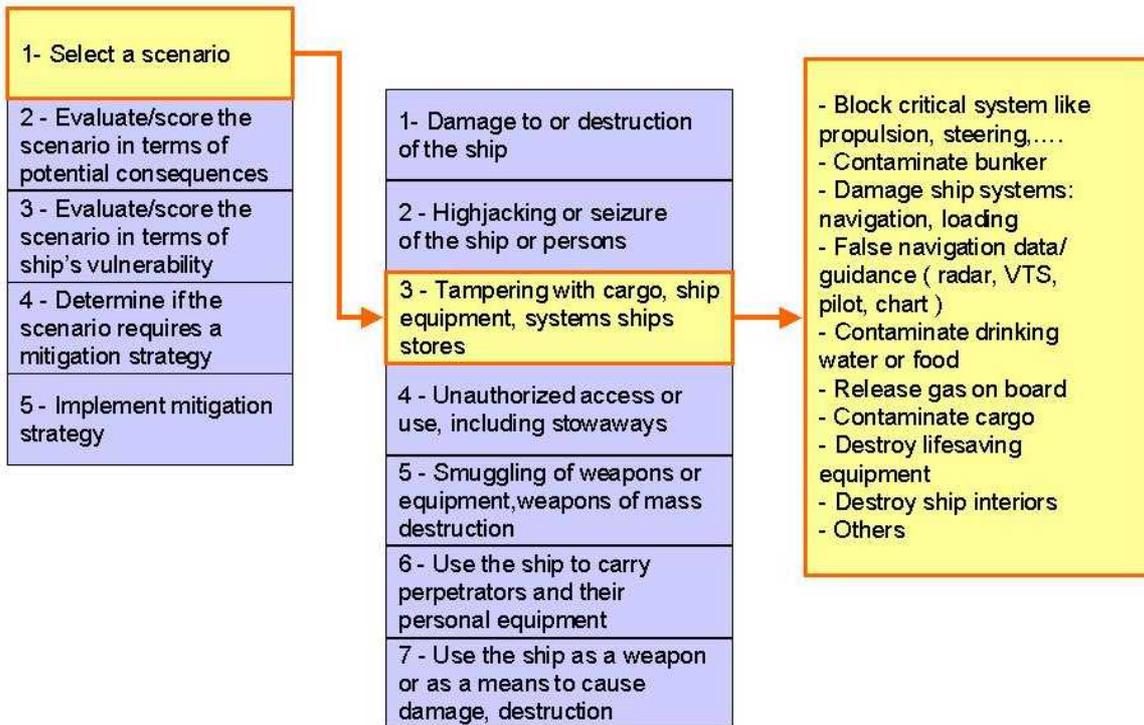
For any of these situations, the review should aim at establishing whether the motivation factors are unlikely, probable or likely to occur. Particular threat scenarios should then be considered accordingly.

The company may then list and describe the potential threat scenarios, especially the ones it considers particularly relevant in its case:

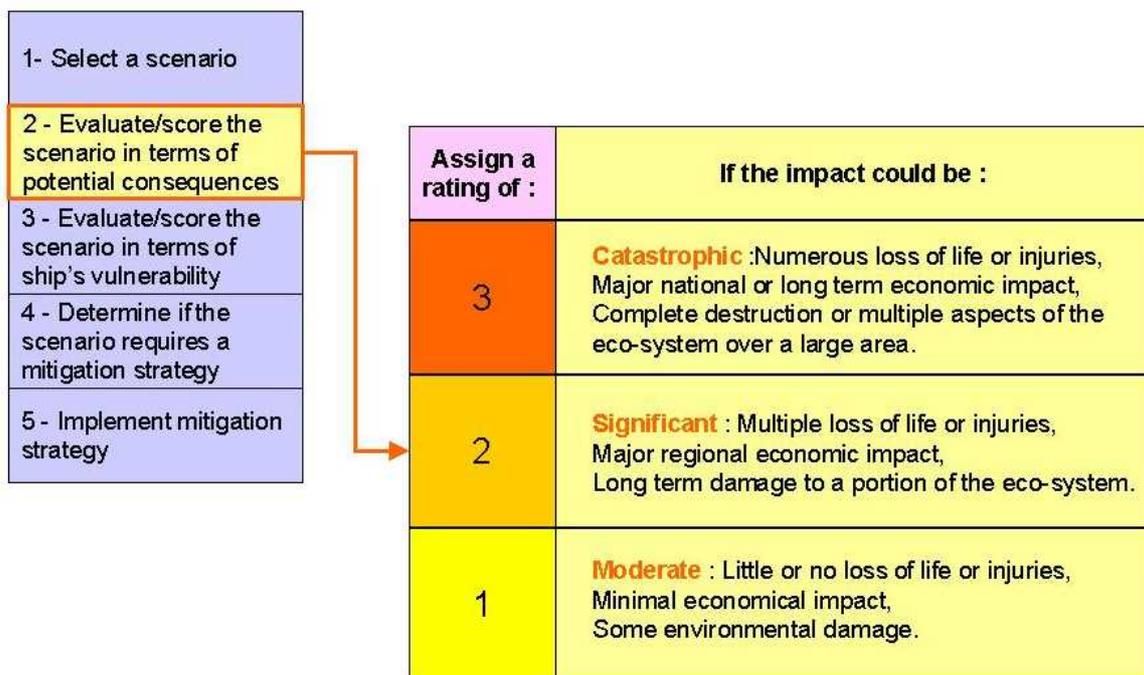
NO SPECIFIC MOTIVATED SCENARIOS	IMO RECOMMENDED SCENARIOS	1- Damage to or destruction of the ship
		2 - Hijacking or seizure of the ship or persons
		3 - Tampering with cargo, ship equipment, systems ships stores
		4 - Unauthorized access or use, including stowaways
		5 - Smuggling of weapons or equipment, weapons of mass destruction
		6 - Use the ship to carry perpetrators and their personal equipment
		7 - Use the ship as a weapon or as a means to cause damage, destruction
SPECIFICS MOTIVATED SCENARIOS	Other	To consider any other specific scenario as relevant

3.1 Potential threat scenarios

A consequence assessment (in terms of injury or death, economic and environmental impact) and a risk (vulnerability) assessment should then be carried out for each scenario, in order to determine whether existing security measures and procedures are sufficient, whether they shall be improved or whether additional new security measures and procedures are required.



3.2 Select a scenario



3.3 Consequence score

- 1- Select a scenario
- 2 - Evaluate/score the scenario in terms of potential consequences
- 3 - Evaluate/score the scenario in terms of ship's vulnerability
- 4 - Determine if the scenario requires a mitigation strategy
- 5 - Implement mitigation strategy

Category	Accessibility	Organic Security
3	No deterrence unrestricted access to ship and unrestricted internal movement	No deterrence capability no plan, no guard force, no emergency communication, outside law enforcement not available for timely prevention
2	Good deterrence Single substantial barrier, unrestricted access to within 100 yards of the ship	Good deterrence capability Minimum security plan, some communications, armed guard force of limited size, limited detection system
1	Excellent deterrence	Excellent deterrence capability

3.4 Vulnerability score

- 1- Select a scenario
- 2 - Evaluate/score the scenario in terms of potential consequences
- 3 - Evaluate/score the scenario in terms of ship's vulnerability
- 4 - Determine if the scenario requires a mitigation strategy
- 5 - Implement mitigation strategy

		Vulnerability Score		
		2	3 - 4	5 - 6
Consequence Score	3	Consider	Mitigate	Mitigate
	2	Document	Consider	Mitigate
	1	Document	Document	Consider

3.5 Scenario requiring a mitigation strategy

- 1- Select a scenario
- 2 - Evaluate/score the scenario in terms of potential consequences
- 3 - Evaluate/score the scenario in terms of ship's vulnerability
- 4 - Determine if the scenario requires a mitigation strategy
- 5 - Implement mitigation strategy

MITIGATION DETERMINATION WORKSHEET					
Step 1	Step 2	Step 3			Step 4
Scenario Description	Consequence score	Vulnerability Score			Mitigation results
		Accessibility	Organic security	Total score	
1					
2					
3					
4					

3.6 Mitigation determination

For further information, you may consult the Appendix B "Guidance on Performing Security Assessment" to the United States Coast Guard (USCG) Navigation and Vessel Inspection Circular NVIC 10-02.

IV) Performance of an on-scene security survey

The on-scene security survey is a very important part of the SSA.

Its objective is the examination and evaluation of existing shipboard protective measures, procedures and operations for:

- Ensuring the performance of all security duties
- Monitoring restricted areas to ensure that only authorized persons have access
- Controlling access to the ship, including any identification systems
- Monitoring of deck areas and areas surrounding the ship
- Controlling the embarkation of persons and their effects (accompanied and unaccompanied baggage and ship's personnel effects)
- Supervising the handling of cargo and the delivery of the ship's stores
- Ensuring that the ship security communication, information and equipment are readily available

Consequently, the one-scene security survey is an onboard assessment of the ship security, in order to:

- Confirm the correct implementation of existing security measures
- Identify the non-existent or insufficient security measures, with particular respect to:
 - Interference between security and safety measures
 - Interference between shipboard duties and security assignments
 - Watchkeeping and manning constraints
 - Deficiencies on security equipment / items

V) Identification of weakness in both the infrastructure and in the procedures

This is the last step of the Ship Security Assessment.

The objective is here to identify in details which remedial actions are needed (as an example, new security measures to be implemented), based on the conclusions of both the vulnerability assessment and the on-scene security survey.

The following steps should be considered:

1. Determination of mitigation strategy (protective measures)
2. List of all the scenario from the previous table that would be affected by the selected protective measures
3. Refer to the same consequence score for each scenario as in table 3.6
4. Re-evaluate vulnerability score
5. With the consequence score and new vulnerability score, use table 3.4 to determine the new mitigation results

The results of this assessment may be reported in a table similar to 5.1, each above steps corresponding to one each column.

MITIGATION IMPLEMENTATION WORKSHEET						
Step 1	Step 2	Step 3	Step 4			Step 5
Mitigate strategy (Protective measure)	Scenarios that are affected	Consequence score	New Vulnerability Score			New Mitigation results
			Accessibility	Organic security	Total score	
1	1					
	2					
	3					
2	1					
	2					
	3					

5.1 Mitigation implementation

This way of carrying out the Ship Security Assessment is a solid basis to the Ship Security Plan.