



# **BCSEA Project Training on IMO Code and EU Directive on Accident Investigation**

## **Accident site**

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# Aim of the presentation



- **First steps on the scene**
- **Risk assessment**
- **Hazards to consider**
- **Scenarios**

# Site assessment



# First considerations on site...



## Investigators should consider the following:

- Meeting with representatives of SIS, national auth. and IP
- General overview of the scene and action plan
- Preserving accident site and controlling access
- Setting up base ashore, if feasible, to enable witness interviews to take place on 'neutral ground', etc
- Making arrangements to gather VDR and other electronic evidence.







## Goal: understand what constraints should be tackled

- time constraints; (ship scheduled sailing, crew departure, etc)
- tidal and weather windows
- language difficulties
- access to site
- procedures to retrieve evidence
- requirements of other authorities conducting investigations
- specialist equipment and expertise required to progress the investigation
- on going salvage / repair schedules
- ...



**Determine which resources are required (expertise / equip.)**

# First steps on scene...



**Initial walk through, if safe to do so!**

**Photograph the scene thoroughly**



**Make written and voice notes, photographs, sketches and diagrams, particularly of**

- the positions of controls and switches,
- the location of used emergency equipment,
- the extent of damage, and
- the location and nature of other items of interest.



**Safety does not just happen, it is a result of:**

- Good management
- Proper training
- Effective procedures

**An investigative body has a duty of care for its investigators, but:**

**Safety is everyone's responsibility!**



# Risk Assessment



## Basic steps to a risk assessment:

- Identification of the **hazards**
- Assessment of the **chances** of a hazardous event occurring
- Assessment of the **severity** or consequences, and
- If the combined risk and severity is too high, taking some action to **reduce the risk** to as low a level as is reasonably practicable.

**A generic risk assessment by the AI body will enable basic safety procedures to be developed**

**A further dynamic risk assessment must be conducted by investigators at the accident scene.**





# Example generic risk assessment

Activity		Machinery Spaces				
	Hazard	Severity	Likelihood	Risk	Control measures	Comments
1.	Loose floor plates, open manholes, loose/missing handrails	Moderate	Likely	High	Secure floor plates, manholes covered, handrails in place	
2.	Poor lighting, bad access, poor ventilation, liquid/solid waste	Moderate	Likely	High	Adequate lighting, safe access, maximum ventilation, clean space	
3.	Asphyxiation, gassing, toxic/flammable atmosphere	Extreme	Unlikely	Very high	Ensure atmosphere is declared gas free and breathable before entry	
4.	Ladders poorly secured, poor maintenance, damaged rungs, falling	Moderate	Unlikely	Medium	Secure ladder, safety harness, examine ladder for damage	
5.	Loose asbestos, inhaling dust	Extreme	Unlikely	Very high	Ensure environment is declared safe by asbestos expert before entry	
6.	Unguarded machinery	Extreme	Unlikely	Very high	Machinery guarded, no loose equipment, clean surfaces and machinery	
7.	Watertight doors	Extreme	Unlikely	Very high	Isolate electric supply to door Put up warning notice Check that it is in local control	

# Hazards to consider



- General hazards

# General- lighting, slippery decks, etc





# General- access to ships



# Hazards to consider



- **General hazards**
- **Confined spaces**



# Confined spaces



# Hazards to consider



- **General hazards**
- **Confined spaces**
- **Pressurised containers**
- **Batteries**
- **Biohazards**
- **Flammable liquids and gases**
- **Asbestos and composite materials**
- **Hazardous materials**
- **Lone working**
- **Climate and working conditions**
- **Fire scenes**
- **Radioactive materials**
- ...



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