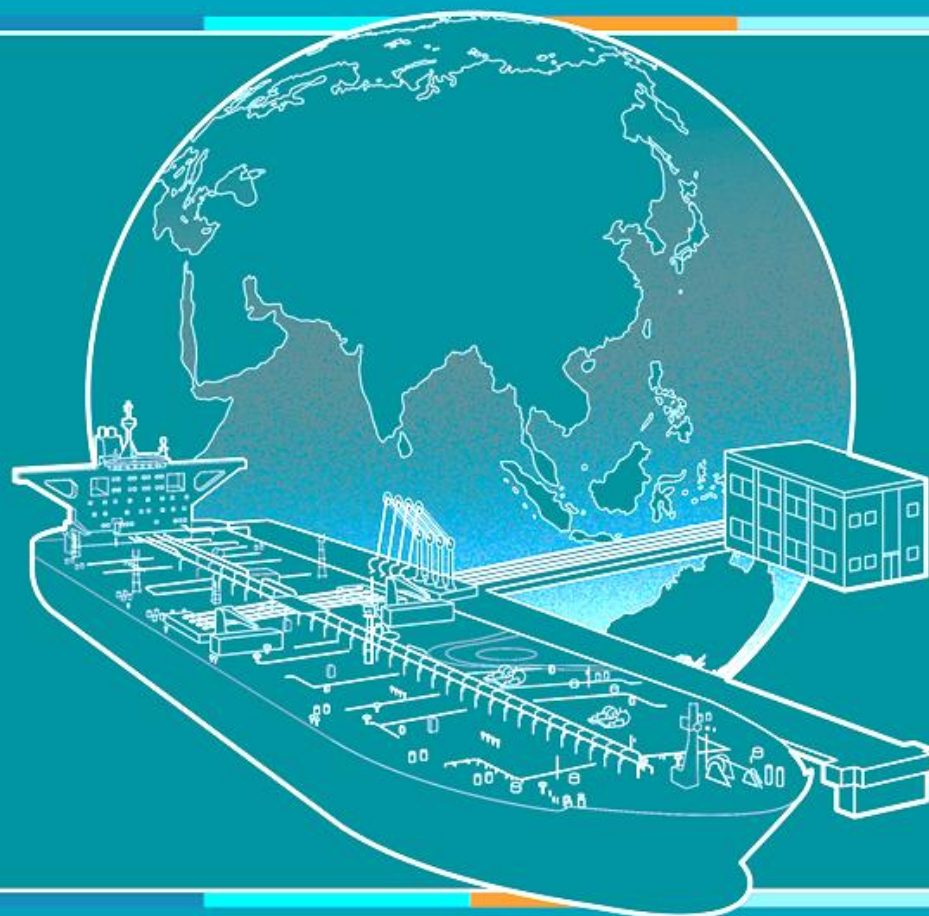


# ISGOTT

International Safety Guide for Oil Tankers and Terminals

Sixth Edition



การปฏิบัติงานรับน้ำมันทางเรือ  
ตามมาตรฐาน ISGOTT 6th Edition  
ในวันพุธที่ 3 พฤศจิกายน 2564  
ช่วงเวลา 08.30 - 12.00 น.

# Introduction

## Main Objectives



1

**Marine Terminal Operators have competency for their roles and responsibilities at onshore terminal.**

2

**Marine Terminal Operators can manage all marine activities safely, start from pre-arrival of tanker until let the tanker depart.**

3

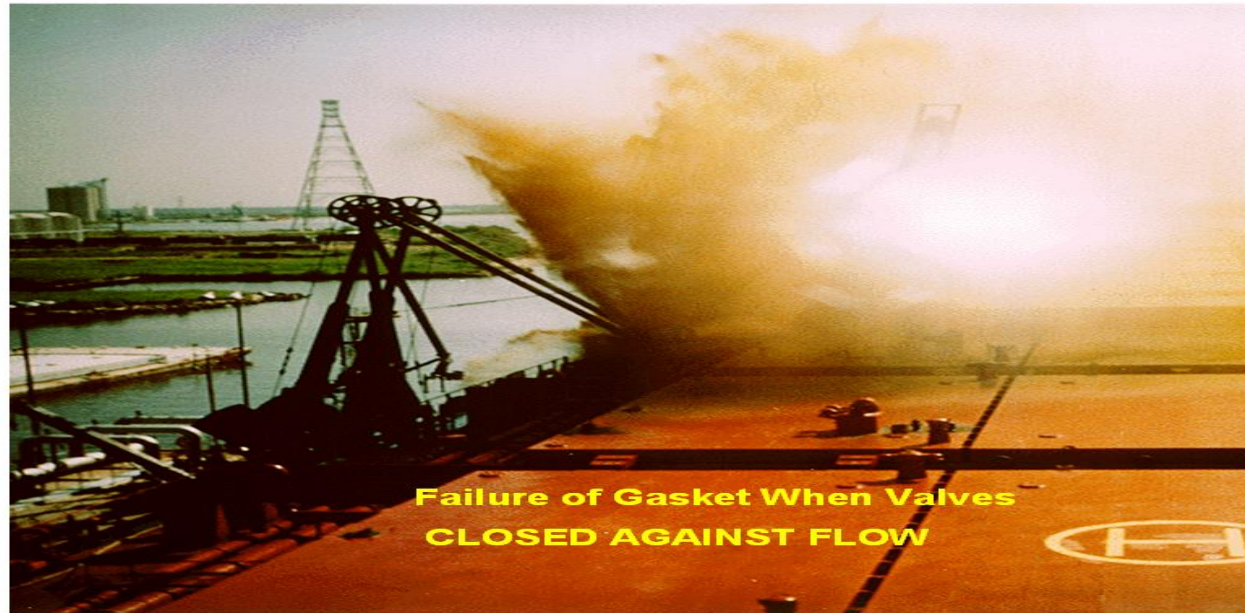
**Marine Terminal Operators can verify and validate exiting safeguard both preventives and mitigative.**

4

**Marine Terminal Operators can manage the marine emergency situations with minimize consequences.**



# The checklist is a Permit to Work



Death of two Crew Members. Loss of Vessel and Damage to Berth



Crew Smoking outside accommodation, Two deaths and loss of vessel





# Impact for Terminals

## ISGOTT 6: a step further into compliance and avoiding incidents

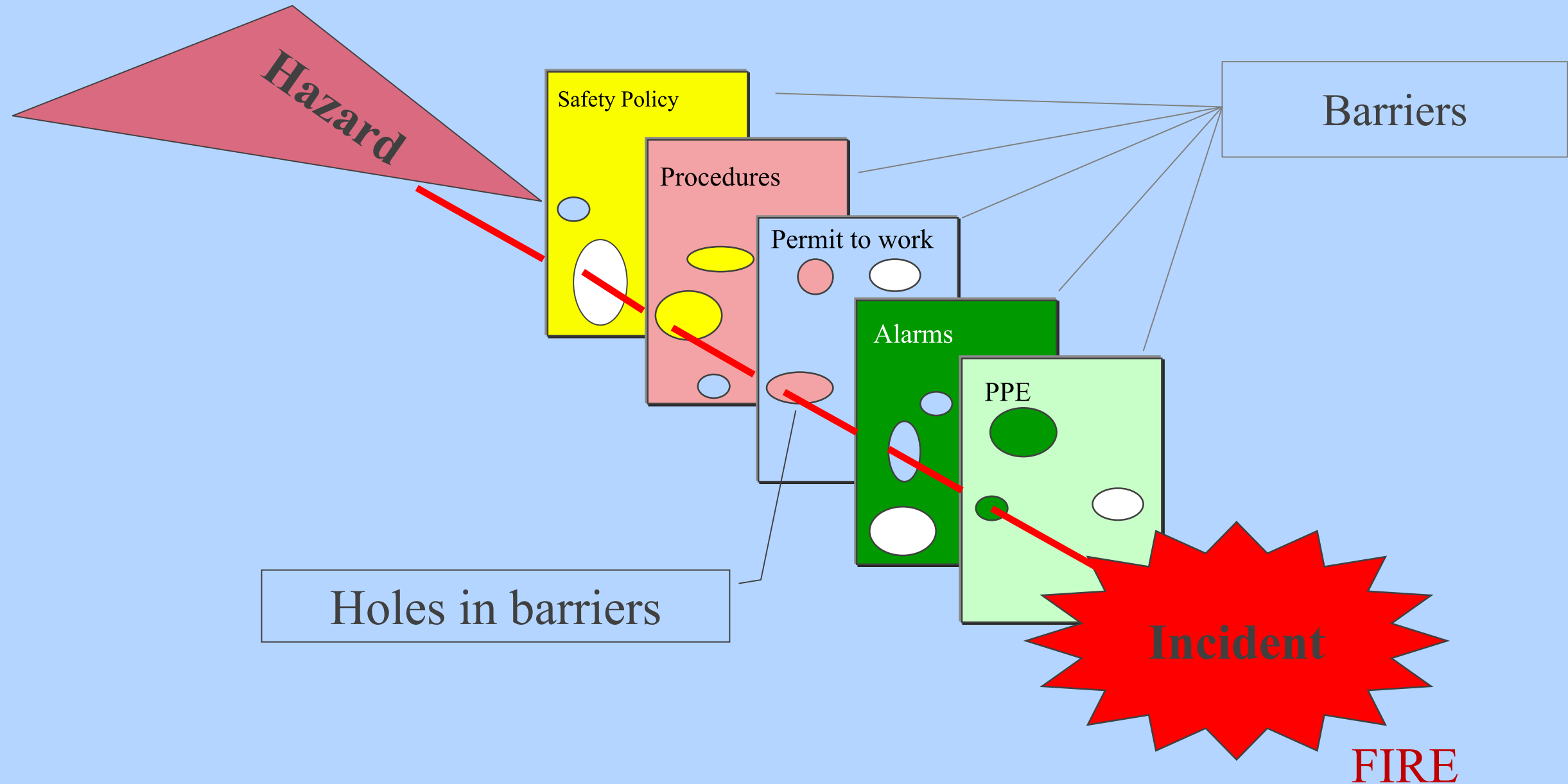
- Marine terminal administration and the critical importance of the tanker/terminal interface  $\Rightarrow$  NEW SSSCL edition 6
- Bunkering operations, including the use of alternative fuels such as Liquefied Natural Gas (LNG)
- Alignment with OCIMF's recently revised Mooring Equipment Guidelines. Maritime security and linkage to both ISPS Code and industry's maritime security Best Management Practices (BMP)



# What are barriers?

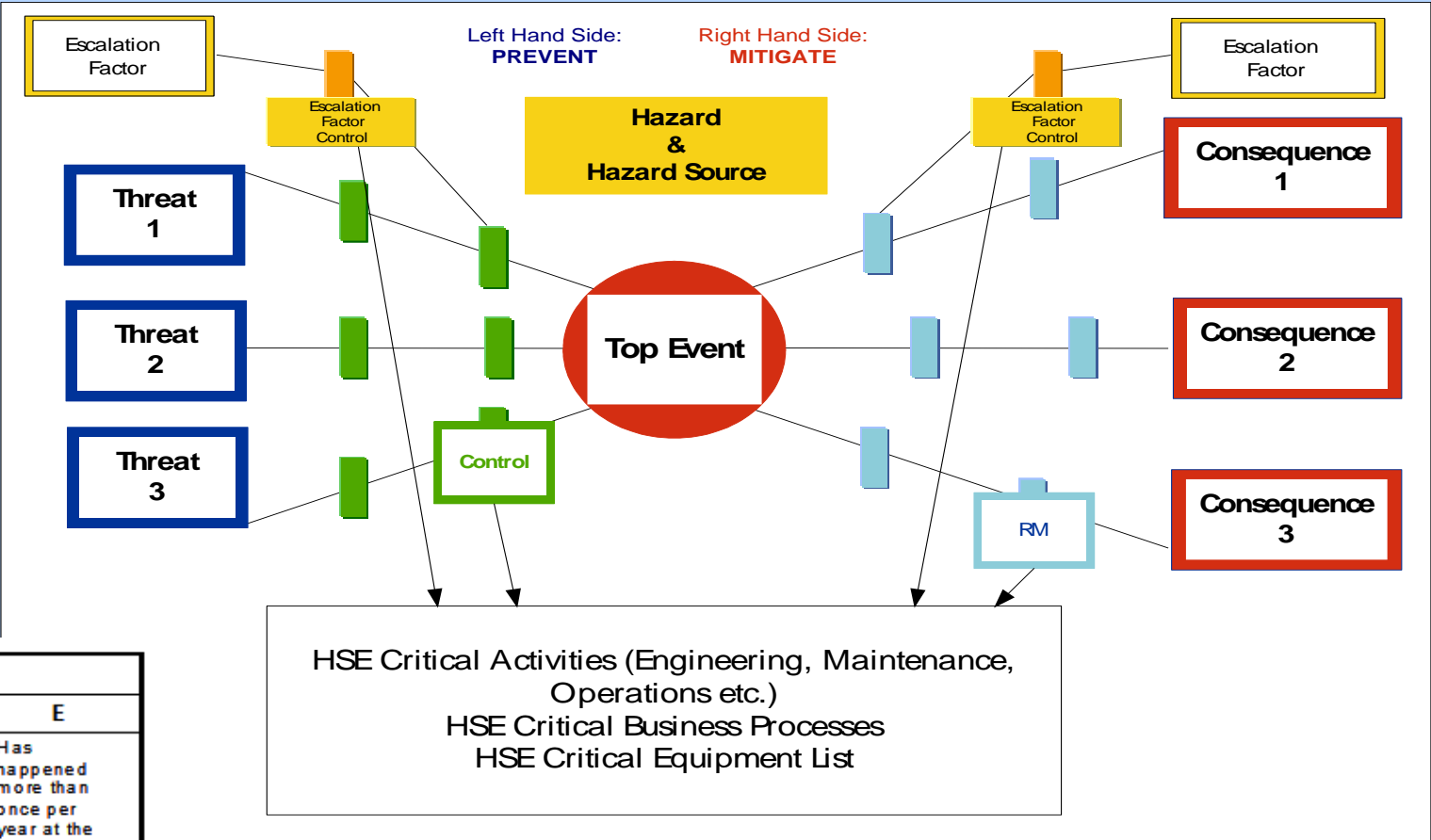
**Example: Activity: Loading Operation**

**Hazard: Flammable material**



# (Background) BowTie analyses used to discuss to increase ALARP

(As Low As Reasonably Practicable)



SEVERITY	CONSEQUENCES				INCREASING LIKELIHOOD				
	People	Assets	Environment	Reputation	A	B	C	D	E
					Never heard of in the Industry	Heard of in the Industry	Has happened in the Organisation or more than once per year in the Industry	Has happened at the Location or more than once per year in the Organisation	Has happened more than once per year at the Location
0	No injury or health effect	No damage	No effect	No impact					
1	Slight injury or health effect	Slight damage	Slight effect	Slight impact					
2	Minor injury or health effect	Minor damage	Minor effect	Minor impact					
3	Major injury or health effect	Moderate damage	Moderate effect	Moderate impact					
4	PTD or up to 3 fatalities	Major damage	Major effect	Major impact					
5	More than 3 fatalities	Massive damage	Massive effect	Massive impact					

# 3 critical elements



HSSE critical  
equipment

HSSE critical  
Activities &  
Tasks

HSSE critical  
Processes

# HSSE critical equipment examples:

- Emergency Notification Systems (alarm, ex phones)
- Mooring eqm bollards
- Emergency stop cables
- Loading arms ESD 1 & ESD2 level, hoses withstands threats of the intendent operation
- High pressure indicators

- Auto shut systems
- Non return valves
- ESD systems
- Tank Gauging
- Gas detections
- Two escape routes jetty
- Fire systems
- Insulating flanges
- Spill equipment



# HSSE critical Activities & Tasks examples:

- Pressure Equipment Inspection
- Function Testing of Emergency Equipment
- Function Check of High-Level alarm
- Operator Surveillance
- 2<sup>nd</sup> person verifying a checklist is carried out
- Training of personnel to perform an action.

## HSSE critical Processes examples:

- Planned Maintenance System
- Management of Change (MOC)
- Permit to Work System
- Emergency Management System
- Competency Management
- PPE Management

- CP- Contractor HSSE Management
- Document Management, Operations Procedures
- HSSE Compliance Management
- Security Management

# Shared Responsibility

The responsibility for safe and efficient operations while a Tanker is at a Terminal is shared jointly between:





# Pre-transfer Conference

## Clear flow of information

On all aspects of the proposed operations and should lead to an agreement between both parties

## Official conference record

1. Agree in writing the transfer procedures and sequences of products, including the maximum loading or unloading rates and initial and topping-off rates.
2. Agree in writing the action to be taken in an emergency while the tanker is at the terminal.
3. Complete and sign the SSSCL sections appropriate to the operations.

## Discuss and confirm

1. Compatibility between the security plans of the tanker and terminal
2. Joint approaches to firefighting or other emergency responses
3. Operational parameters

# Composition of the Ship/Shore Safety Checklist

The checklist has four main sections:

- **Pre-arrival**
- **Checks after mooring**
- **Checks pre-transfer (including agreements)**
- **Summary of repetitive checks during and after transfer, until the tanker departs**

Part 1A. Tanker: checks pre-arrival

Part 1B. Tanker: checks pre-arrival if using an inert gas system

Part 2. Terminal: checks pre-arrival

Part 3. Tanker: checks after mooring

Part 4. Terminal: checks after mooring

Part 5A. Tanker and terminal: pre-transfer conference

Part 5B. Tanker and terminal: bulk liquid chemicals. Checks pre-transfer

Part 5C. Tanker and terminal: liquefied gas. Checks pre-transfer

Part 6. Tanker and terminal: agreements pre-transfer

Part 7A. General tanker: checks pre-transfer

Part 7B. Tanker: checks pre-transfer if crude oil washing is planned Part 7C.

Tanker: checks prior to tank cleaning and/or gas freeing

Part 8. Tanker: repetitive checks during and after transfer

Part 9. Terminal: repetitive checks during and after transfer

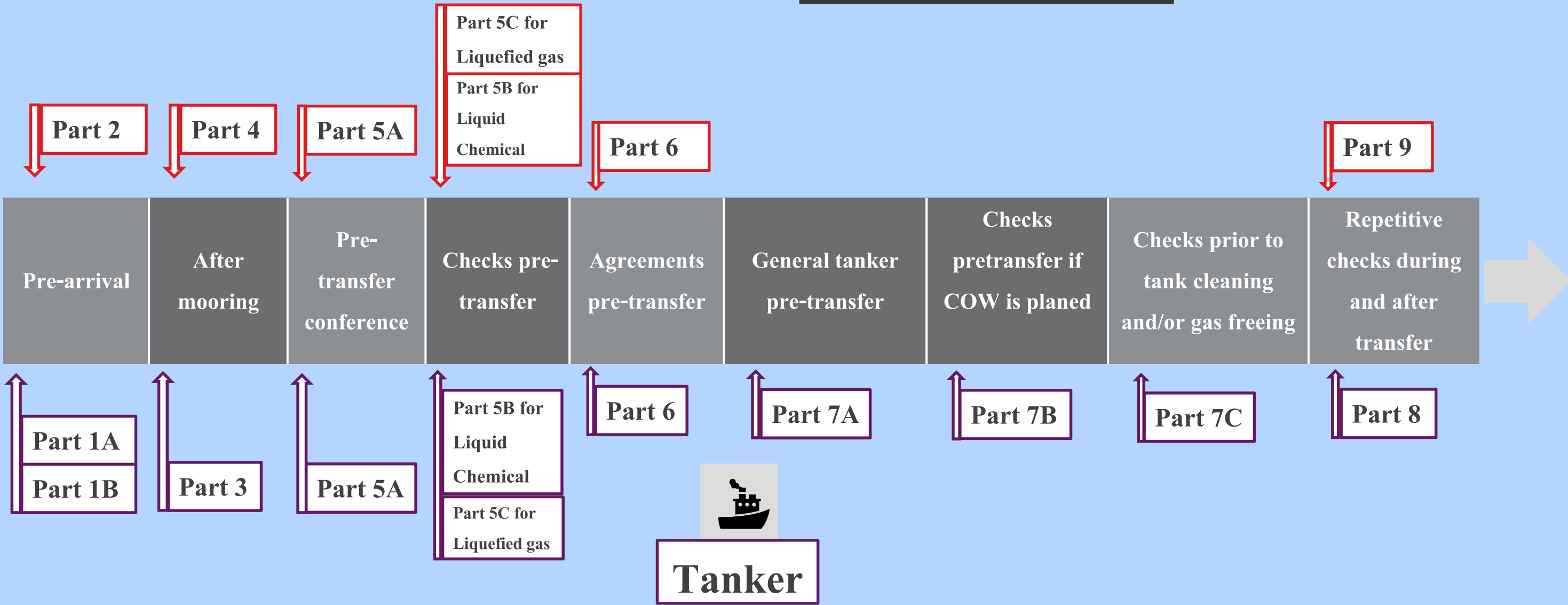
# Marine Terminal Activities Timeline



Terminal

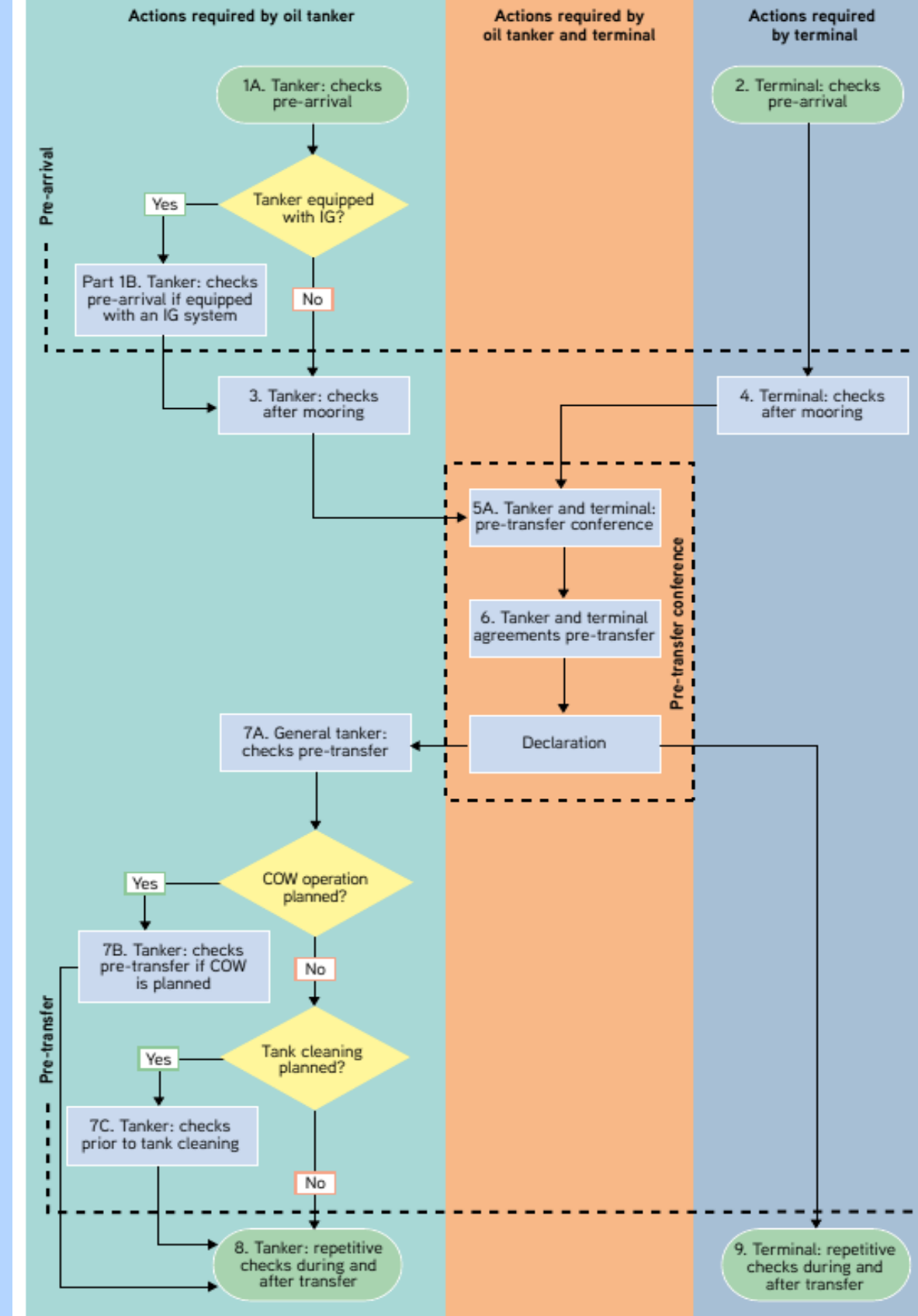
## Marine emergencies which may happen anytime

1. General emergency
2. Oil Spill and vapour release
3. Fire and explosion
4. Evacuation
5. Collision and damage to the berth
6. Medical emergency
7. Security breach
8. Personal overboard
9. Vessel breakout or drift along the berth
10. Emergency shutdown (ESD)
11. Incident notification procedure

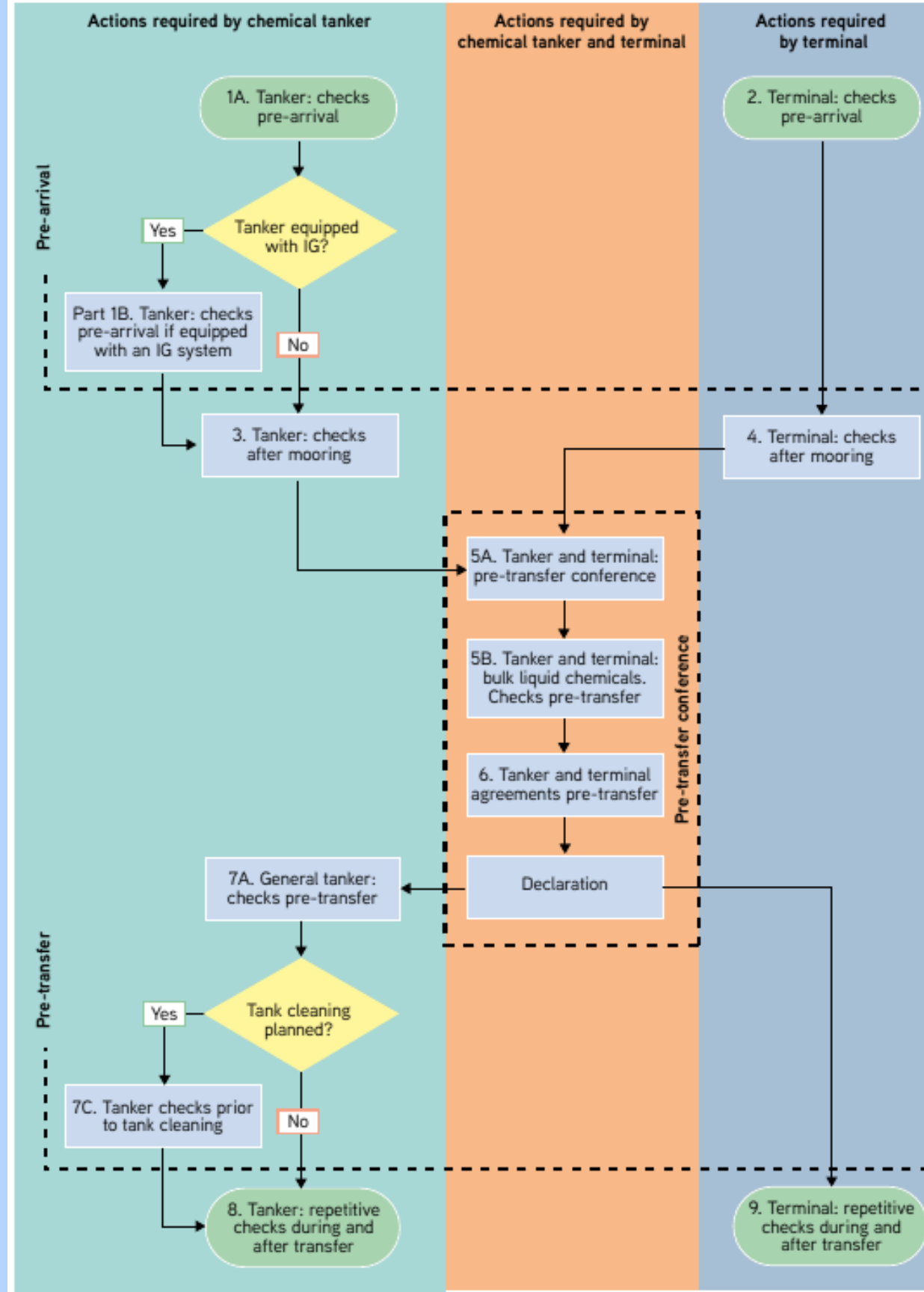




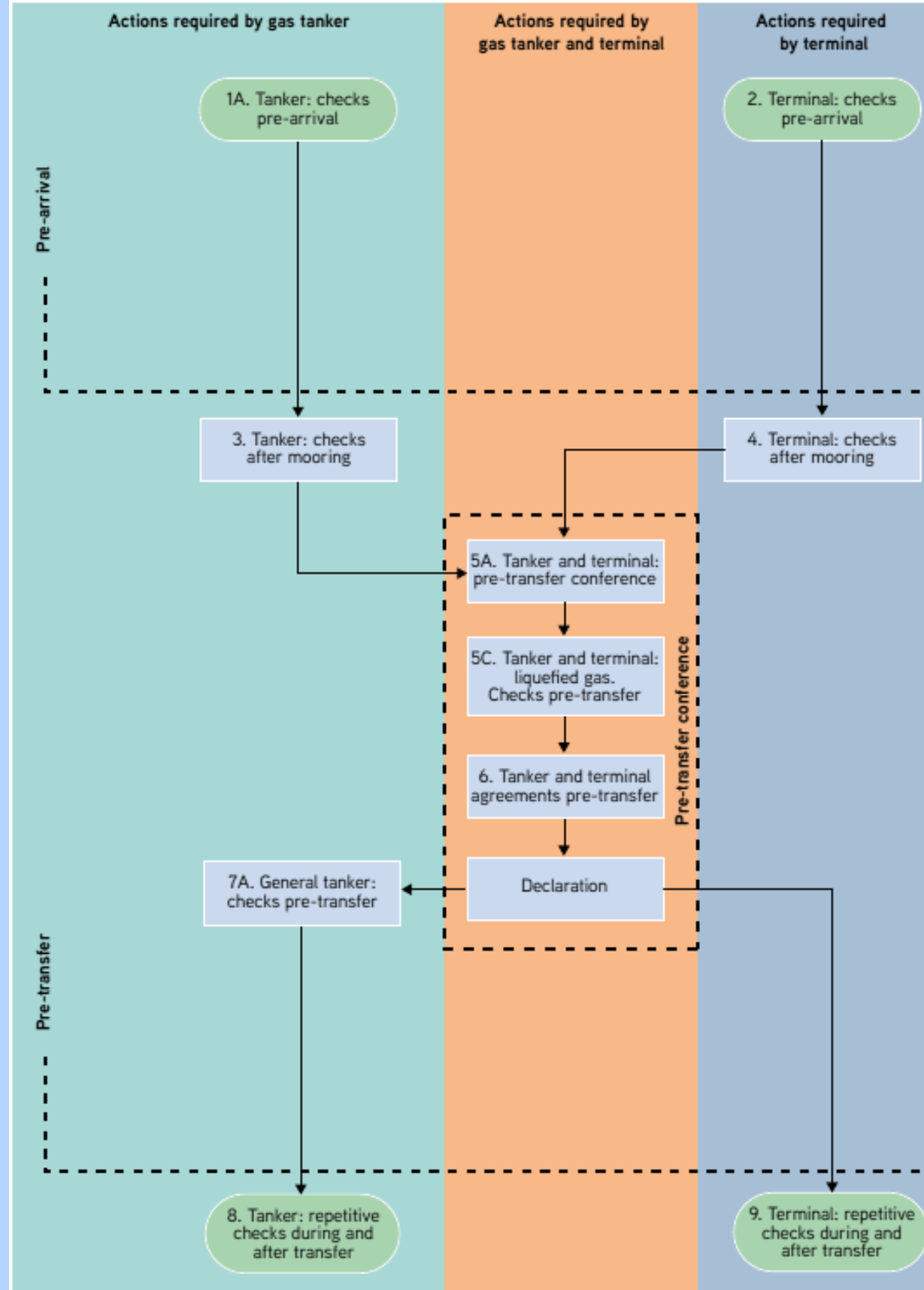
# Flowchart for oil tankers



# Flowchart for chemical tankers



## Flowchart for chemical tankers





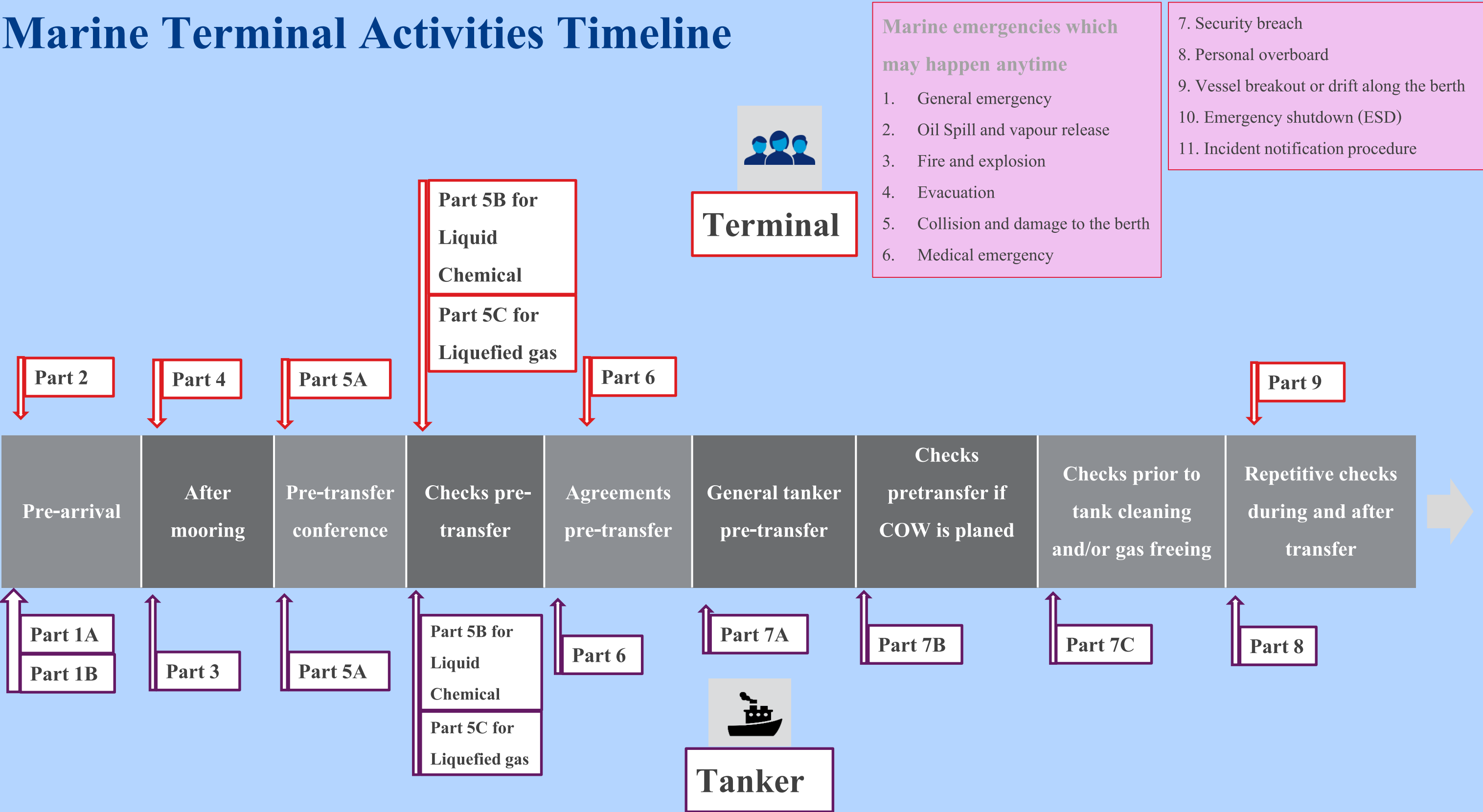
# Ship/Shore Safety Checklist

- Both parties should have copy of **all sub-sections of the checklist.**
- Statements have reference to ISGOTT Sixth Edition for **additional guidance.**
- Where statements are not accepted – Comment in Remarks column – **any decision about the safety of operations should be based on facts and not assumptions or interpretations.** If a ' ' answer is not confirmed, it may be appropriate to delay or cancel the transfer operation.

# Ship/Shore Safety Checklist

- Part 6 (Agreements) table – **Agreed values and limits** – Displayed in the control stations.
- **Joint declaration agreed before starting transfer operations** after completing appropriate checklist parts.
- Repetitive checks time period **begins after signing the Declaration**, regardless of when actual cargo transfer started.

# Marine Terminal Activities Timeline





# Reference

- OCIMF Marine Terminal Operator Competence and Training Guide
- International Safety Guide for Oil Tankers and Terminals (IGSOTT) 6<sup>th</sup> edition

Q&A

