

TMSA – Tanker Management And Self Assessment

Risk Assessment, Incident Investigation
and Management of Change

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THE COMPLIANCE REGIME OF TMSA

- SOLAS – A result of sinking of the TITANIC. Concentrated on Hull design, communications.
- MARPOL – Originated from the grounding of the Torrey Canyon in 1967. Again, concentrates on material requirements.
- OPA 90 – the Exxon Valdez disaster in 1989 – Double Hulls and Rapid Response Groups.
- ISM Code – First approach towards systems.
- TMSA – An amplification of ISM. Even more compliance driven than ISM and leading to improvement of Company's SMS.

TMSA – Tanker Management And Self Assessment

More than 2 Years have been passed
since OCIMF has given guidelines “TMSA”
to ship operators.

And

Nearly all ship-operators have
implemented TMSA in their system.

TMSA - A practical approach towards improvement in safe operating systems adopted by Ship operators.

- An amplification of ISM to make pillars of safety stronger (SOLAS, MARPOL, ISM and STCW).
- Even more compliance driven than ISM?
- A comprehensive guide on managing vessel operations.
- A benchmarking tool giving checklist of key performance indicators.
- A lot of work for the Safety & Quality Department including various other dept!
- More emphasis on the shore staff of organization including their retention period.



TMSA

1. Element 7 - Management of change
2. Element 8 – Incident Investigation and Analysis.

Both Elements are related very closely in a continuous process in form of chain, with following Key achievers;

- Incident Analysis & Incident Management
- Basic, contributing & Root Cause Analysis
- Control and Elimination of cause
- Risk Assessment & Risk management
- Change analysis

Element 7 –Management of Change



Change – A Law of Universe

Element 7 -Change Management

Fundamental approach - What, Why, How, When and where?

What?

- It is the process, tool and technique to manage the change in the present running system. It is used to achieve the required outcomes and to realize the change effectively within the individual change agent.

Element 7 -Change Management

Why?

- To ensure that standardized methods and procedures are used for efficient and prompt handling of all changes, in order to minimize the impact of change related incidents upon service quality and consequently to improve the routine& critical operations of the organization.

Element 7 -Change Management

How?

- By Risk assessment and Analysis.
- KPI and statistical data.
- Improvement in the strength of barrier
- Change Analysis
- Barrier Analysis

Element 7 -Change Management

When?

- If it has been Occurred?
- If it is Identified?
- If it is scheduled?

Element 7 -Change Management

Where?

- Physical location – on board the ship or in shore organization
- Environmental conditions – out at sea, in port, during port approach.

Change

- An action resulting in a new infrastructure.

-Categories of Change-

3. Minor

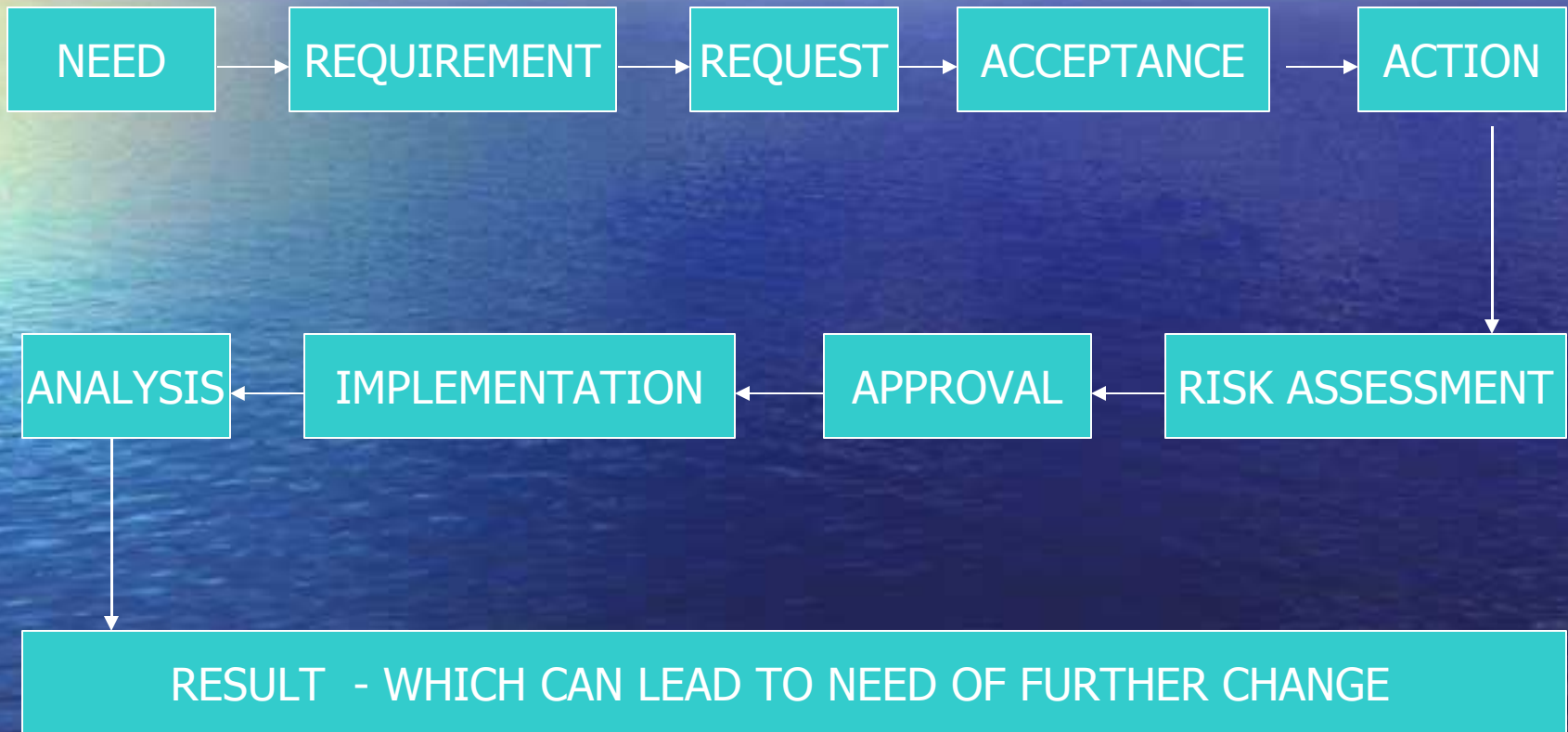
4. Significant

5. Major

6. Urgent

Categories are debatable with undefined scope boundaries.

Flow Chart for Change



Procedure for “ Change”

- Need – To continue or improve the system
- Requirements – Personnel or Data
- Request – By Ship or shore
- Acceptance – By SQM/Tech/Ops Manager
- Action – Revised process
- Risk Assessment – By Ship and shore organization
- Approval – By Chairman/ Advisory board
- Implementation – on ship or shore
- Change Analysis – Deviation between what is expected and what actually happened.

Types of Changes

1. Planned

2. Unplanned

1. Planned Changes- Pre approved or Standard Changes

- Minor – Change in the Emergency Muster station
- Major – Change in Hot work Check List

2. Unplanned Changes

Urgent Change – Requires faster steps

- Change in Organization (unexpected Sign off of key personnel on board, resignation of key staff on shore)
- Impact of change (on ship and company)
- Personnel's affected by change (directly or in indirectly)

Sub - Types of Changes ;

Directly

- Process

In directly

- Equipments
- Personnel
- Responsibilities
- Regulatory bodies
- Documentation/ PMS

CHANGE IN PROCESS

- Types of Process
 - New process
 - Installation of ECDIS on board.
 - Implementation of Electronic Data Control System
 - Existing process
 - Amendments in Passage plan format
 - Change in frequency of QMS review

CHANGE IN EQUIPMENT

- Addition
- Replacement
- Removal from service
- Reduction in performance
- Modification

CHANGE IN PERSONNEL

- On board Organization – i.e. Master
- Shore Organization – i.e. Manager
- Support organization – i.e. Agent etc

CHANGE IN RESPONSIBILITIES

Leading to Process

- Promotions
- Evaluation
- Training
- Experience and Age

CHANGE IN REGULATORY BODIES

- Change of CLASS
- Change of FLAG
- Change of Regulations by Class, Flag, IMO, ICS etc

How we go about Change Management?

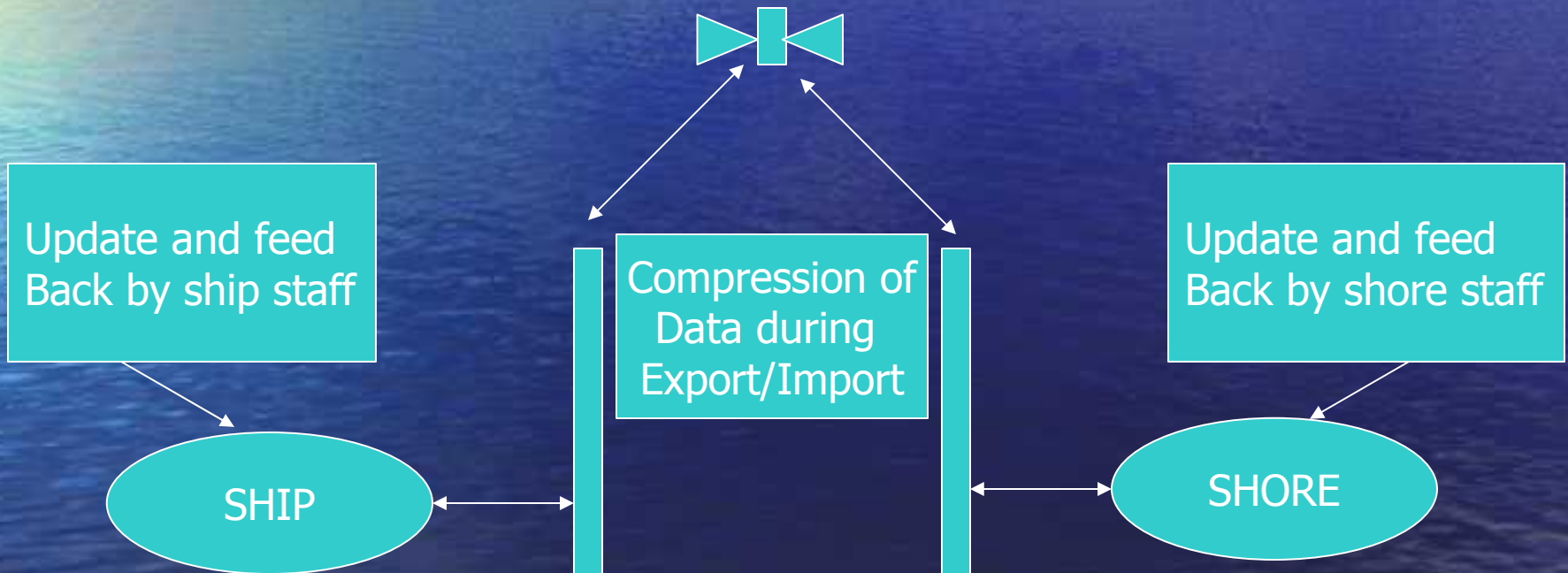
1. Vision

- On Shore Safety Management Committee
- Yearly targets with KPI
- Quarterly Review/ Status of Targets
- Analysis with Statistics
- Objectives achieved
- Change in process if required
- Change Analysis

New Process in our company-

Electronic Document Control System

“IORA” – Used by US Navy



New Process- Document Control System

Electronic Document Control System– IORA

- Shipboard QMS review
- Onshore management review
- Incident reporting
- Risk Analysis
- Changes in SMS
- Update of rules & regulation
- Defects status tracking – VIR, PSC, Audits, Inspection, Supplies of Stores & Spares
- Update of ANTM for Chart correction

Existing Process in our Company -Examples

1. Take over of Vessel in fleet

- Pre joining & sailing of Senior officers
- General Inspection by pre joiners
- Familiarization by pre joiners
- Superintendent's role
- Other Sailing Staff
- Effectiveness of Checks as per SMS

2. Change of Sailing Staff

- Handing Over report
- Taking Over report
- Familiarization
- Feed back from the company
- Contingency preparation – back up

3. Promotion Process

- Carrier development record
- Parallel sailing - depending upon the rank
- Company's Criteria
- Individual capability
- Appraisal reports
- Joint Decision/ interview/ evaluation
- Familiarization
- Specialized training if required

Risk assessment for routine and non routine Tasks

- Initial Risk Assessment
- Detailed Risk assessment
- Change of Authorization- if applicable
- Change Management

Every Change requires Risk Assessment

Element 8: Incident Investigation & Analysis



Incident Investigation & Analysis

- **INCIDENT-** Any event which is not part of standard operation and which causes or may cause, an interruption to, or a reduction in the quality of that operation is an incident

Incident is followed by-

1. Immediate Correction
2. Investigation
3. Corrective Action
4. Preventive action
5. Risk Assessment & Risk Management
6. Change in Process
7. Change Analysis

Correction , Corrective Action and Preventive Action and Corrective agents

- Correction: To resume the normal and safe operation on board the vessel after detection of direct cause.
- Corrective Action: Measure taken to Control the cause
- Preventive Measure: Measure taken to Eliminate the cause

“Corrective Agents” are-

- Ship Staff
- Company Staff
- External Bodies (Port Authorities, MRCC, Class, Flag, Port agents, Suppliers, coast Guards etc)

Example -

- Incident: Fire during use of cutting torch due to flash back.
- Correction:
 - Extinguish the fire.
- Corrective Action:
 - Install the Flash back arrestor in Cutting torch.
- Preventive Measure:
 - Circulation of Safety Alert in company and all fleet vessels.
 - Change in the procedure of checking the Cutting Torch & Nozzle.
 - Use of Flash back arrestor in cutting torch on all ships.

Incident Investigation

By study the case to investigate the Root cause of Incident.

- Inspection – Safety & Quality Auditor, Suptd.
- Assessment – Equipment/ Material/ Personnel/ Design/ Training Deficiency/ Management Problem
- Analysis of Records - Logs, Maintenance schedule etc
- Collection of Evidences – Photographs, Interview, Statements etc.
- Report of findings
- Over all Analysis and Result

Implementation of Change

- Risk Analysis & Risk Management – by key personnel and trained concerned staff.
- Change Management – Change and Change Analysis

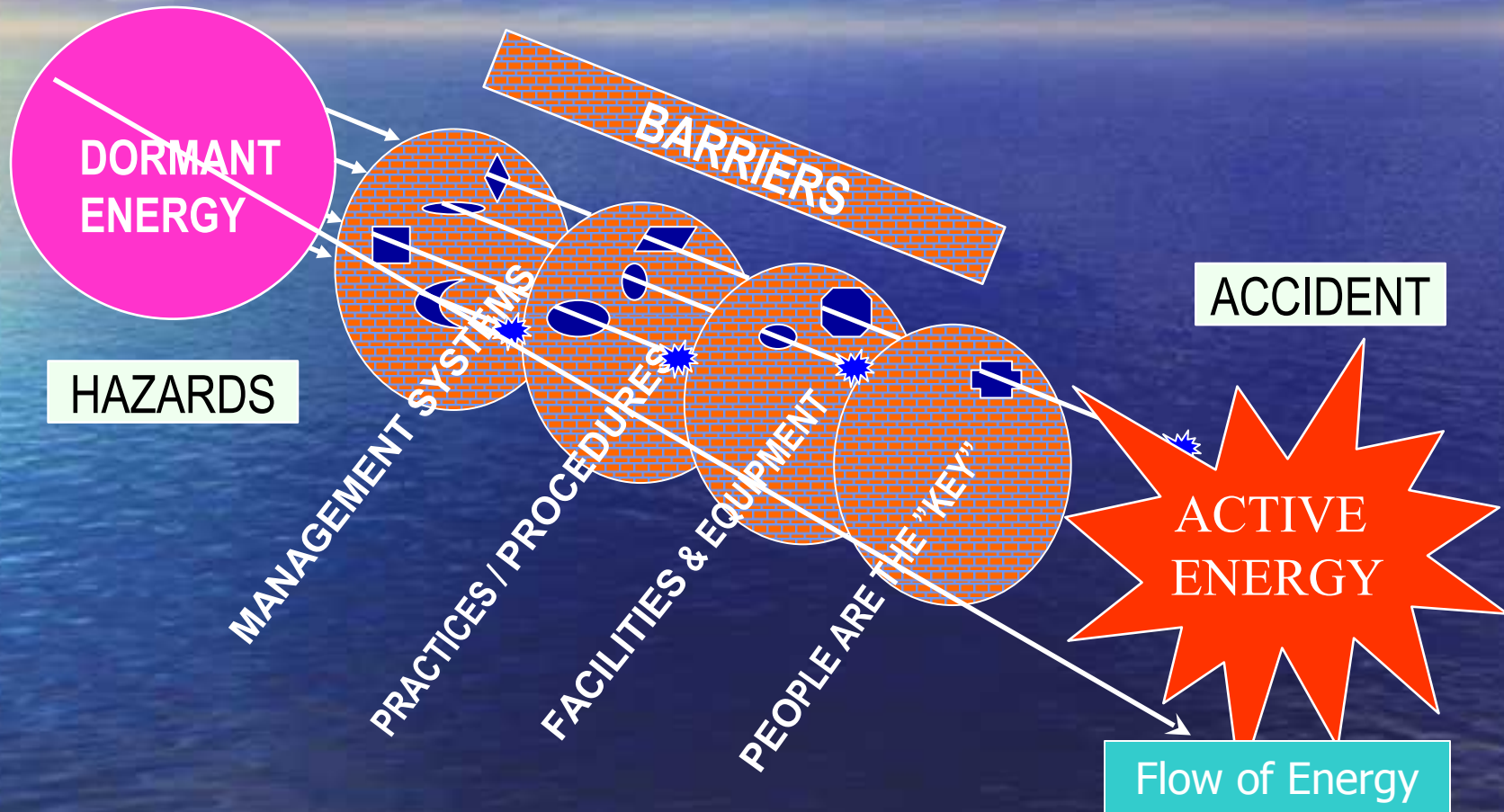
What we are achieving by “Change management” and “Incident Investigation and Analysis”?

- An improvement in system process to enhance safety in all operations by Ship Operators.
- we can say that we are doing Analysis on Safety Barrier of the operating processes and procedures of company and bringing the changes in the system by improving the strength of the “Safety barrier”.

Analysis on Failure of Safety Barrier

- Performance
- Functioning
- Design of barrier
- Maintenance of barrier
- Result of Dormant energy or Unwanted Flow of energy
- What are the changes required to rebuilt the safety barrier stronger?

Safety Barrier Strength- Brick in the wall



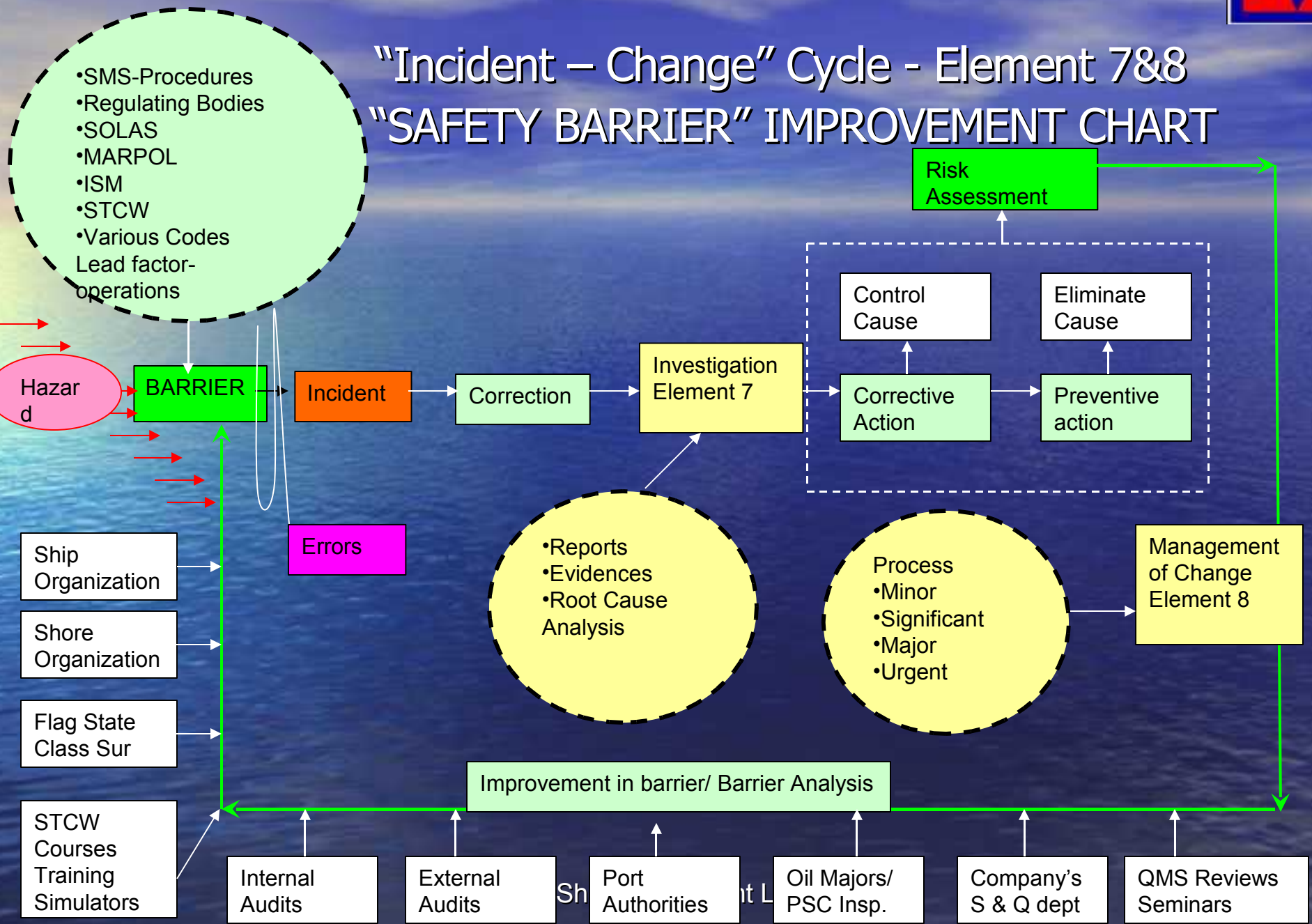
Chain of Continual improvement in the Safety Systems by

1. Incident Analysis,
2. Change Analysis and
3. Barrier Analysis.



"Incident – Change" Cycle - Element 7&8

"SAFETY BARRIER" IMPROVEMENT CHART



TMSA approach in Building Safety Barrier

- “Hazard Reactor Dormant Energy” can be stopped by the Safety barrier before it changes into the “Active Energy” .
Stronger the barrier lesser the chances for the conversion of Hazards in to Incidents.
There is no doubt that this safety barrier can be made stronger by using techniques and guidelines given by OCIMF through TMSA. – Capt. Mirza A. Nasir

Background & Company Profile

We have managed about 350 vessels of all types and sizes

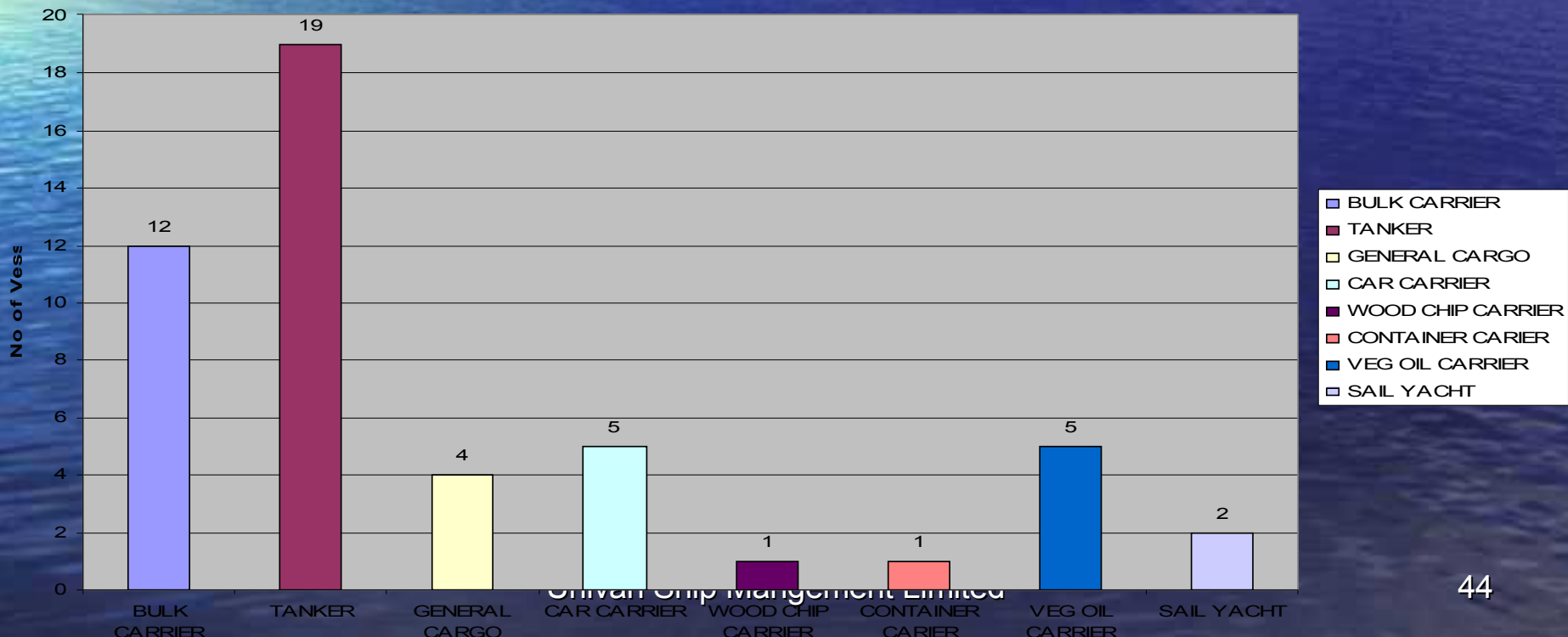


Univan Ship Management Limited

Fleet Composition

Presently, we have a diverse range of vessels under our full technical management (Total strength – 49 ships)

Fleet Vessel Types Distribution



- Thank You very Much for your valuable time.

