

TEEKAY MARINE SERVICES

**TANKER OPERATOR**

**TMSA IN TANKER  
OPERATIONS**

**04<sup>th</sup> Sept 2006  
Hong Kong**



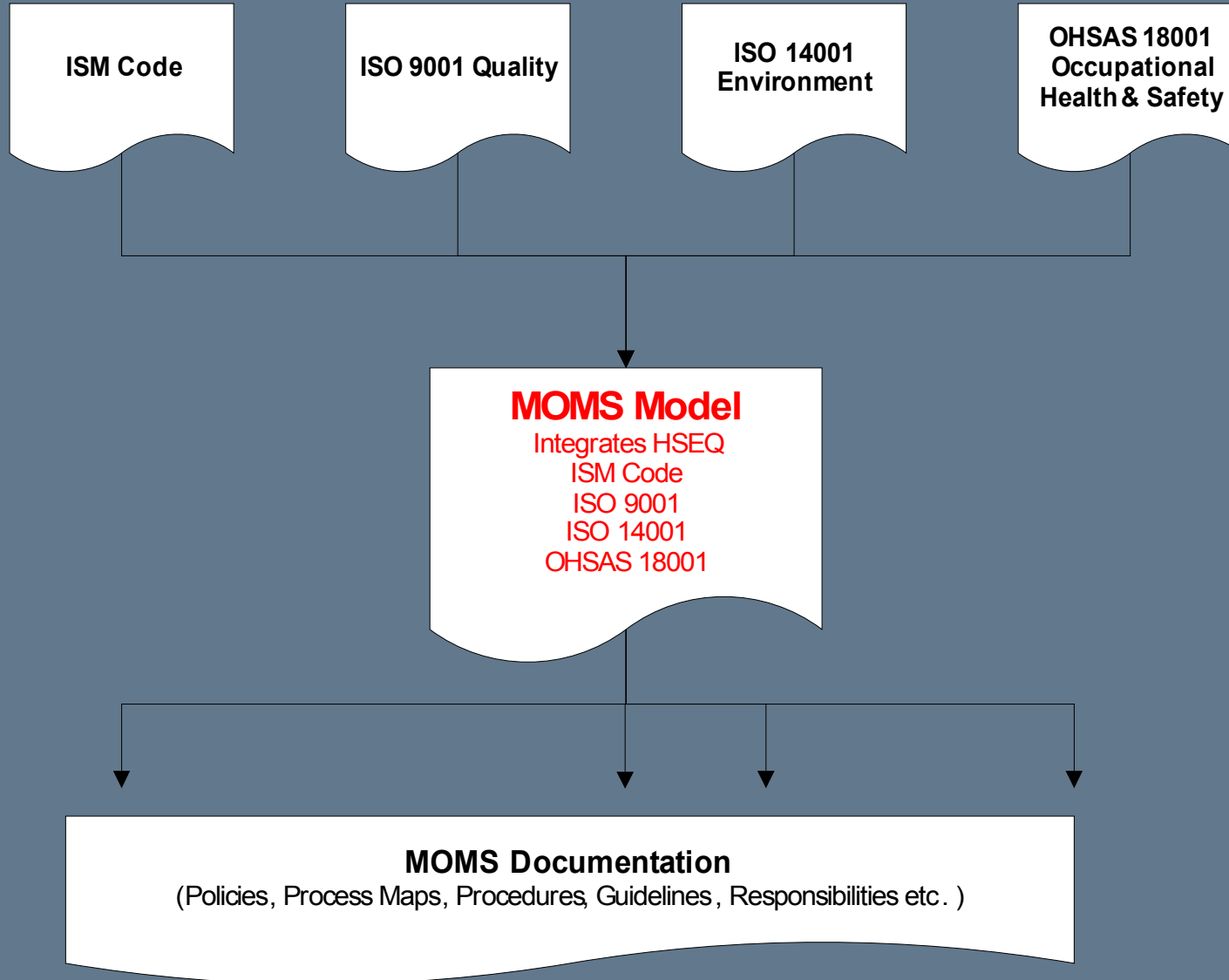
► TEEKAY – THE MARINE MIDSTREAM COMPANY®



[www.teekay.com](http://www.teekay.com)

The Tanker Management and Self - Assessment program offers a standard framework for assessment of a ship operator's management system.

# MOMS



# MOMS & TMSA

- ▶ Alignment between **MOMS** and **TMSA**:
  - ▶ Both based on Deming Management Cycle
    - PLAN-DO-CHECK-ACT (MOMS)
    - PLAN-ACT-MEASURE-IMPROVE (TMSA)
  - ▶ Both stress the need for:
    - Continuous improvement
    - Objectives and targets
    - KPI's
    - Robust audit process



# MOMS ELEMENTS

## PLAN

- Element 1: Management Commitment
- Element 2: Legal and Other Requirements
- Element 3: HSEQ Policy
- Element 4: Risk Analysis and Identification
- Element 5: HSEQ Planning – Objectives, Targets and Programs

## DO

- Element 6: Design & Development of New Services
- Element 7: Customer Focus
- Element 8: Organizational Structure & Responsibility
- Element 9: Communications
- Element 10: Training, Competence and Awareness
- Element 11: Resources
- Element 12: Procurement & Contractor Management
- Element 13: Operational Controls
- Element 14: Emergency Preparedness
- Element 15: Records

## CHECK

- Element 16: Documentation and Data Control
- Element 17: Monitoring, Measuring, Inspection and Testing
- Element 18: Internal System Audits

## ACT

- Element 19: Non-Conformance & Incident Investigation
- Element 20: Management Review



# Gap Analysis Results

- ▶ Areas identified from initial high level gap analysis were:
  - ▶ Expansion of management of change process
  - ▶ More focus on health & hygiene issues
  - ▶ Benchmarking for environmental performance
  - ▶ Extent of incident investigation training
  
- ▶ In other areas minor procedural amendments would bring compliance
  
- ▶ Initial results from the detailed internal review indicated that we fully comply with 211 of the 241 KPI's in the 12 TMSA elements



# Implementation

- ▶ Overall, a very high degree of alignment, with minor areas to be expanded. No fundamental differences.
- ▶ Documented an audit trail of compliance, based on Teekay's interpretation of how the requirements have been met.
- ▶ Implemented an improvement plan for gaps.
- ▶ Ships received a special package of information. Seminars held for staff on leave where TMSA and implementation was explained.



# 1 – Management, leadership and accountability

- ▶ Commitment from the top
- ▶ Has to be visible
- ▶ Key driver – Communication (lower levels are being heard)
- ▶ CEO
- ▶ President TMS
- ▶ Ship staff and shore staff surveys



## 2 – Recruitment & management of shore staff

- ▶ Continuous Professional Development
- ▶ Everybody's responsibility
- ▶ One year goal / five year goal
- ▶ HR manages (Service provider)



## 3 – Recruitment & management of ship staff

- ▶ Global shortage
- ▶ Finding competent staff and then keeping them
- ▶ Expand horizons for recruitment
- ▶ Competency management
- ▶ Company shares responsibility of development
- ▶ Effectiveness of Training



## 4 – Reliability and maintenance standards

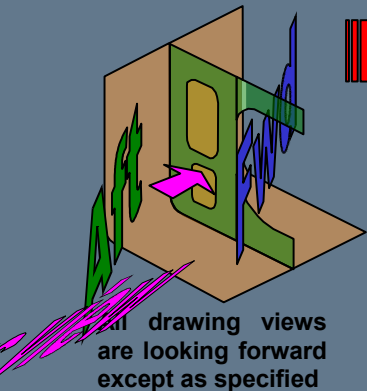
- ▶ Managing it all with all the new requirements
- ▶ Problems with the services
- ▶ Has to be maintained from day 1
- ▶ SIMS



# SIMS

## HOT SPOT LOCATOR

A scanned image of the frame (from the "as built" drawings) is used to locate the position of the critical connection (hot spot) in the tank.



**Frame #**  
Cargo or Ballast Tank #

Brackets connections

Hot Spot

Hot Spot

Hot Spot

Hot Spot

## FRAME LOCATOR

The red line indicates the position of the frame in the ship.

## TYPICAL CONNECTION DETAILS

These sketches will indicate the location where "Hot Spots" may be expected.

Details or orientation of the connections may differ depending on their location in the frame.

## Color keys

Areas to look at on the **Forward** side of the Bulkhead.

Areas to look at on the **after** side of the Bulkhead.

Areas to look at due to fatigue condition.

Areas to look at due to structural design.

Areas that require action.

Areas that require special attention.

Note: in the case of Web Frames, **both** sides of the web frame at the connection should always be inspected



## 5 – Navigational safety

- ▶ Over reliance on electronic aids
- ▶ Back to Basics
- ▶ ECDIS
- ▶ Commercial pressures from charterers



## 6 – Cargo, ballast & mooring operations

- ▶ Experience
- ▶ Back 2 Basics
- ▶ Alternative moorings



# 7 – Management of change

**MAKE IT SIMPLE !!**



## 8 – Incident investigation and analysis

- ▶ Getting down to the correct root cause
- ▶ ORCA
- ▶ Incident investigation training
- ▶ Near miss reporting
- ▶ Fleet wide goal – ships have no goals but trends monitored and analyzed with incident trends for vessel
- ▶ Weeding out “creative” reporting
- ▶ Just blame culture



# 10 – Environmental management

- ▶ High level of attention
- ▶ ELP audits
- ▶ ORB entry training
- ▶ ELP surveys
- ▶ Useful Equipment
- ▶ Waste reduction drive



# 11 – Emergency preparedness

- ▶ Preventing drills from becoming monotonous
- ▶ FSETO program

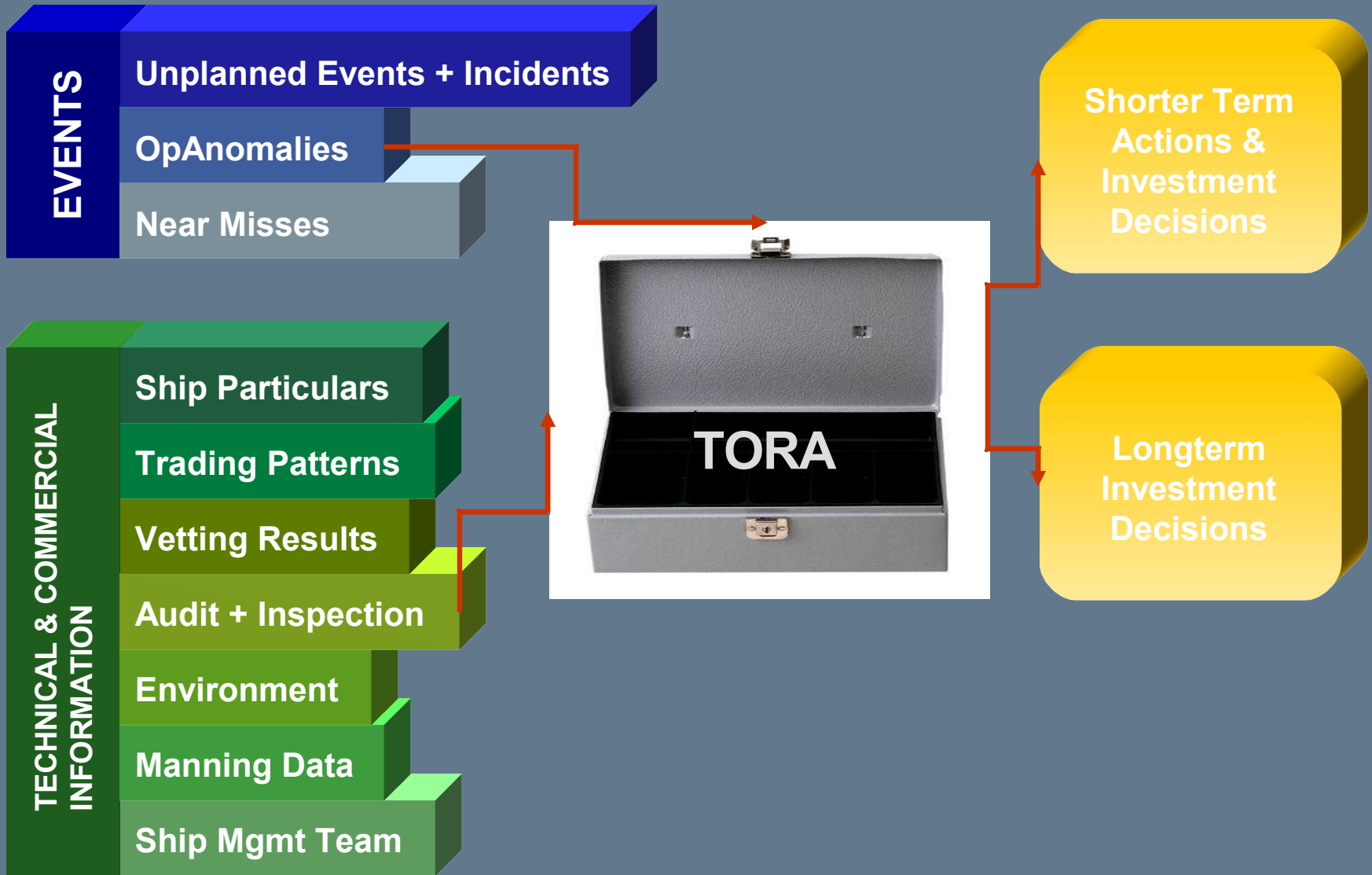


# 12 – Measurement, analysis & improvement

- ▶ On going process
- ▶ Rely on in house developed systems and tools
- ▶ TORA – Toolbox for operational risk analysis
- ▶ PBViews – access to real time information on main KPIs



# TORA



# CONCLUSION

- ▶ Same philosophy that the effectiveness of a company's Management System is key to the quality of the ships and the operation
- ▶ The foundation of an effective Management System is a clear vision, a core purpose, strong leadership and a commitment to continuous improvement
- ▶ Opportunity:
  - ▶ To prove to our customers that outstanding vessel performance is backed by highly effective management systems.
  - ▶ For improvement
  - ▶ To reflect our customers' perspective and expectations

