



# PORT SAFETY HEALTH AND ENVIRONMENTAL MANAGEMENT SYSTEM





# RESPONDING TO THE CHALLENGE



- Port Safety Health and Environmental Management (PSHEM) Code
- Port Safety, Health and Environmental Management System (PSHEMS)
- PSHEMS Recognition Scheme



# PSHEM CODE

## Purpose

To provide an international standard, against which an organization (port authority/port operator) can measure the performance of its operation with regard to quality, safety and health of port workers and the protection of the environment.





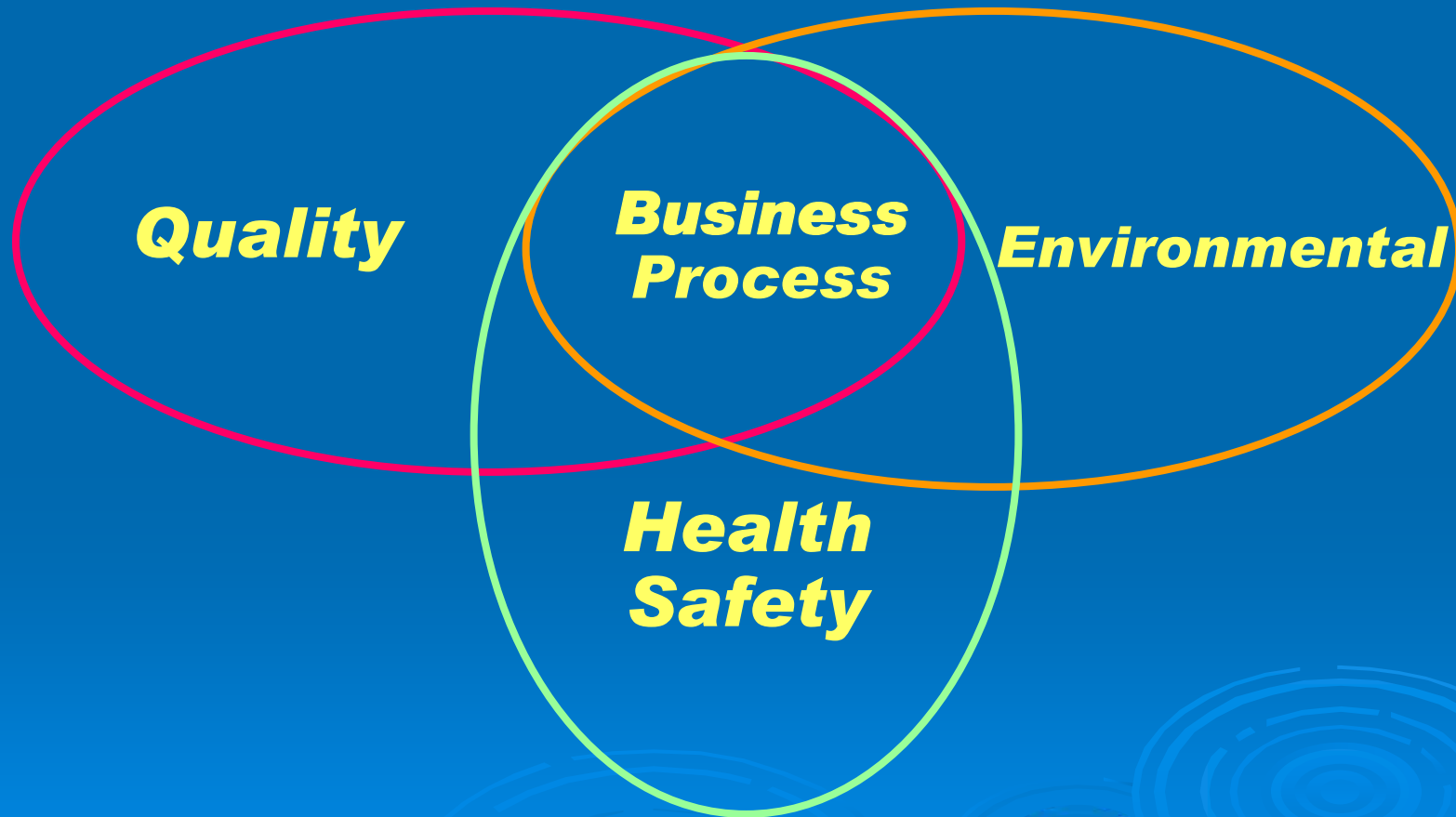
# Key Elements: (1) Integration of Q & EHS





# Quality, Environmental, Health and Safety Management System Integration

## *The Business Process Approach*





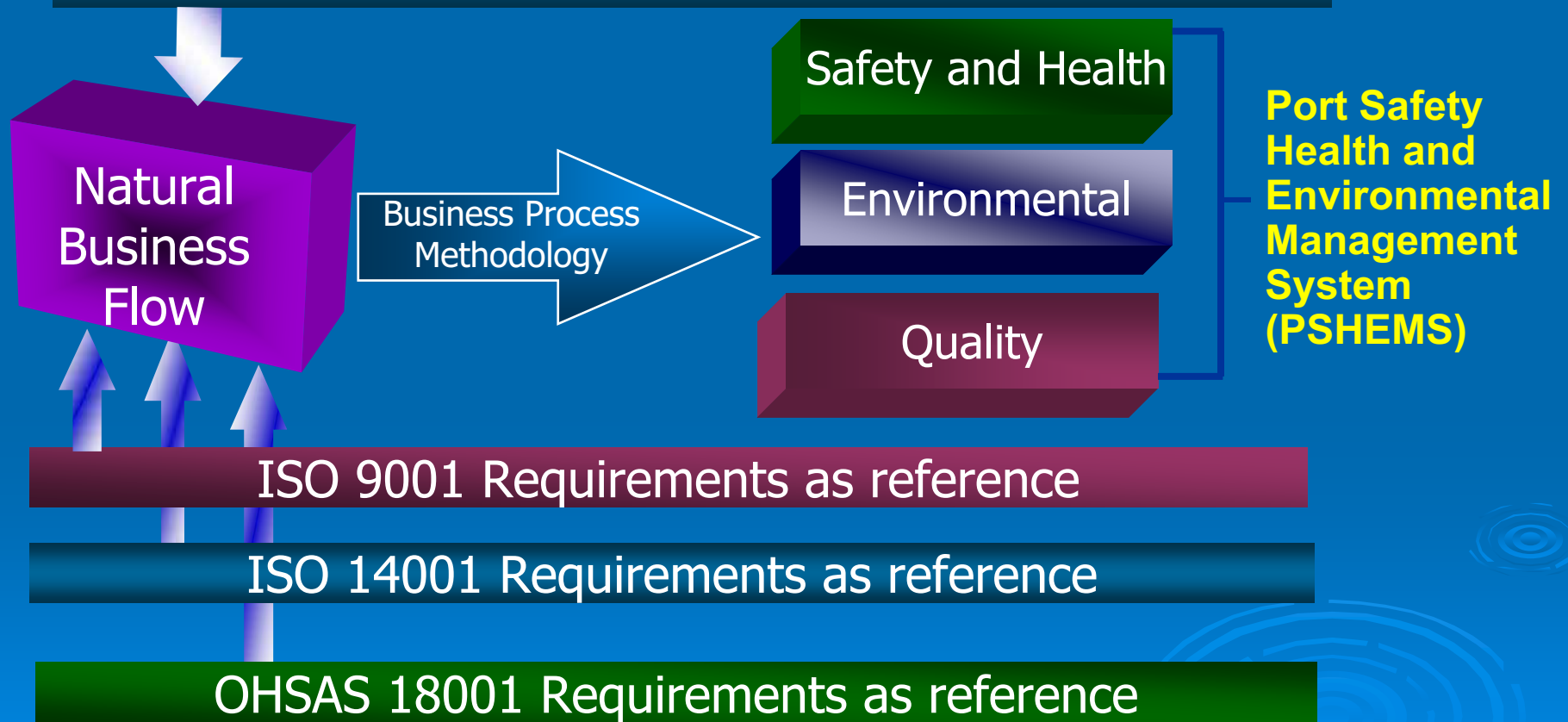
## Key Elements (2): Business Process

- Defines the key PROCESSES and the interrelationship, which reflect how an organization conducts its BUSINESS OPERATION
- How the different functions in the organization interact to provide safe, effective and efficient service or product to customers and stakeholders.



# PEMSEA'S Business Process Approach

## Overview of Integrated System





# Key Elements: (3) Continual Improvement

## Plan

establish policy, objectives and processes necessary to deliver results in accordance with the organizations SHE policy

## Do

implement the process

## Act

take actions to continually improve performance of the PSHEMS

## Check

monitor and measure processes against policy, objectives, targets, legal and other requirements



**PDCA cycle entails continually improving performance of the PSHEMS**



# Port Safety Health and Environmental Management System (PSHEMS)

An **integrated management system** that will improve port's **operational performance**

through a **comprehensive and coordinated approach** to safety in port operations , protection of human life, property and the environment.

# 6 Phases of PSHEMS Development and Implementation

Phase 1: Initial Status Review

Phase 2: Strategic Planning


Phase 3: System Development

Phase 4: Implementation & Monitoring

Phase 5: PSHEMS Auditing

Phase 6: Continual Improvement

# Phase 1: Initial Status Review

- Preparatory Activities
  - Conduct Training of the PSHEMS Teams including International Requirement
  - Conduct Initial Status Review
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# Phase 2: Strategic Planning

- Establish PSHEMS Policy
- Conduct Training on Risk Assessment/Strategic Planning
- Conduct Strategic Planning Activities
  - Determination of PSHEMS Scope & Identification of processes/activities
  - Conduct Detailed Hazard Identification
  - Conduct Detailed Risk Assessment
  - Existing Controls Analysis (Barrier/Recovery Measure Analysis)
  - Establishment of Vision, Mission, Policy, Objectives, Targets and Program (ROTP and KPIs)

# Phase 3: System Development

- Conduct Training on System Development
- System Development Activities
  - Confirmation of PSHEMS Scope & Identification of processes/activities
  - Development of Business Process & Process Diagrams
  - Development of Process
    - Description
    - PSHEMS Manual Compilation
    - Establishment of Document Control Procedures
    - Establishment of Records Control Procedures
    - Initial Distribution of Manual

# Phase 3: System Development

## ➤ System Development Activities

- Determination of PSHEMS Systems & Operational Control Procedures and Support Documents
- Development of Procedure for each of the Steps in the PSHEMS development & Implementation
- Development of Procedure for each of the activities of each process
  - Documentation of procedure, support documents, work instruction, guidelines, checklist
  - Initial Distribution of Procedures

# Phase 4: Implementation & Monitoring

- Conduct Training on Implementation & Monitoring
- Implementation & Monitoring Activities
  - Provision of Required Controls as specified in controls analysis and ROTP
  - Training of employees and interested parties
  - Implementation of Programs (ROTP)
  - Implementation of Process/Operational Procedure

# Phase 4 Implementation & Monitoring


## ➤ Monitoring Activities

- Determination of PSHEMS Monitoring Parameters
- Monitoring of Program Implementation
- Monitoring of Procedure Implementation
- Monitoring of PSHEMS Process Performance
- Monitoring of emissions & discharges
- Monitoring safety, health, environmental performance
- Monitoring of contractors & suppliers performance
- Feedback from interested parties
- Assessment of Legal & Other requirement compliance
- Conduct of Corrective, Preventive & Improvement Action

# Phase 5: PSHEMS Auditing

- Conduct Training on Internal Auditing
- Audit Activities
  - Initiating the Audit
  - Audit Planning
  - Conduct of Internal Audit & Reporting
  - Corrective/Preventive Action & Follow-up

# Phase 6: Continual Improvement

- Conduct Training on Continual Improvement
  - Conduct Management Review
    - Prepare Management Review inputs
    - Conduct Management Review Meeting
  - Conduct Pre Assessment
  - Final Preparation
    - Fine tuning of PSHEMS
    - Improvement action based on management review result
- 



# What is Involved in PSHEMS Implementation

- **Strong management commitment**
- **Defining Policy**
- **Understanding risk and impact**
- **Defining objectives and targets**
- **Establishing, implementing and maintaining procedures**
- **Communicating responsibilities and progress**
- **Monitoring and measuring performance**
- **Continually improving the system**



# Key Benefits of Implementing PSHEMS

- Harmonized organizational structures (e.g. risk management, audit systems, etc.)
- Better reporting and input into analysis of data and decision makings
- Minimum conflict
- Optimum resource use through reduced duplication
- Improved quality, productivity, and EHS performance
- Continual improvement



# Port of Tanjung Pelepas

Johor Bahru, Johor, Malaysia





**For the past four years the PTP implemented and maintained the PSHEMS covering all the processes of port operations.**

Quality, Health, Safety and Environment is PTP's Way of Life  
Towards an Integrated Management System 2005  
(ISO 9001:2000, ISO 14001:2004 & OHSAS 18001:1999)



**PTP**

Port of Tanjung Pelepas  
RELIABLE • EFFICIENT • ADVANCED

**Through the PSHEMS, PTP was able to achieve better safety, health and environmental performance.**



**...and was able to achieve international certification for integrated management system:**

# IMS: International Standards ISO 9001, ISO 14001 and OHSAS 18001.



Port Authority of Thailand

# Bangkok Port





**Bangkok Port**  
Implementing and Maintaining a  
**PSHEMS for Dangerous Goods Handling.**

“For the past four years the Bangkok Port implemented and maintained the PSHEMS...”



....covering processes of port operation relevant to dangerous goods handling.



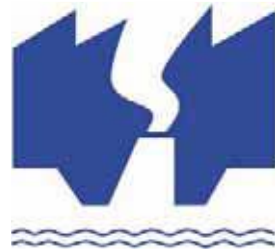
**Through the PSHEMS, Bangkok Port was able to improve safety, health and environmental performance**



....and was able to effective control the handling of dangerous goods in Bangkok Port.



# Laemchabang Port





**For the past year the  
Laem Chabang Port  
implemented and  
maintained the PSHEMS  
covering Port  
Management and Control  
to ensure the  
implementation of Safety,  
Health and Environmental  
Regulation in the Port  
Area.**



**Laem Chabang Port also  
provided its Terminal  
Leasing Companies (TLCs)  
with services to ensure  
safe and efficient operation  
of the Port Terminals.**



**Actively  
participating in the  
development and  
implementation of  
PSHEMS in Laem  
Chabang Port,**

- **LCB Container Terminal  
1 Limited**
- **LCMT Company Limited**
- **JWD Info Logistics Co.,  
Ltd  
(Dangerous Cargoes  
Warehouse)**

**(Next year to include 4  
more TLCs)**



## Laem Chabang Port Port Authority of Thailand



Laem Chabang Port is committed to continual improvement in: its practices in environmental care, the review of its environmental performance and the use of sustainable natural resources.





Involvement of Laem Chabang Port, Kasetsart University and local municipality in sustainably managing and protecting the coastal resource base, including the mangrove forests.





## Laem Chabang Port

Plant trees in port area,  
help save our environment  
by reducing global warming



The diversity and abundance of marine lives in this region are greater than many comparable habitats elsewhere.





# THE PSHEMS INITIATIVE: WHAT IT OFFERS



## ✓ PSHEMS Code

A voluntary standard that enables the ports to measure the performance of its operations with regard to quality, safety and health of port workers and protection of the environment.



## ✓ PSHEMS training modules

To enhance capacities of PSHEMS project teams and port personnel to support the establishment and implementation of PSHEMS.



## ✓ Port Safety Audit Manual

Assists the internal and independent auditors in identifying the strengths and weaknesses in port regulations, policies and practices



## ✓ PSHEMS Handbook

Provides a step-by-step process on establishing and implementing the PSHEMS



## ✓ PSHEMS Auditors

Assists ports in assessing the performance of its PSHEMS



## ✓ PSHEMS Recognition Services

To recognize ports who have successfully implemented the PSHEMS