# ISO 14001 Environmental Management Systems

*A Systematic Approach To Environmental Management*

**28th Annual Environmental Permitting Summer School**
*Marco Island Marriott Beach Resort, Golf Club & Spa*
*Friday, July 25, 2014*
*8:30AM-10:10AM*
*Capri 1*

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1828

# ISO 14001 Environmental Management Systems

## *A systematic approach to environmental management*

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# A Global Leader in Testing, Inspection & Certification

Health, Safety & Environmental

**Testing**

**Inspection**

**Certification**

ISO 9001:2008 CERTIFIED

**FOUNDED:** 1828

**1,330+**
Offices and Labs

**140** countries

**66,000**
EMPLOYEES

**400,000**
Clients

**8 Global Businesses**

# The Global/National Service Leader in…

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**Certification Auditor**

**Boiler & Pressure Vessel Inspections**

**Construction Code Compliance Firm**

**Power & Utilities Code Compliance**

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**Structural Steel Inspections**

# Our Certified Technical Professionals



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- Certified Safety Professionals (CSP)

- Certified Ergonomists (CPE, CIE, CAE)

- Certified Hazardous Matl's Managers (CHMM)

- Professional Engineers (PE)

- Professional/Registered Geologists (PG/RG)

- Associates in Risk Management (ARM)

- Certified Professional Environmental Auditor

- Registered Environmental Assessors (REA)

# Course Introduction

- ► What is ISO?

- ► ISO 14001 standard overview.

- ► Introduction of Environmental Management System (EMS).

- ► Organization approach

- ► Benefits of ISO 14001 EMS

- ► Legal and other requirements in EMS

- ► Future of ISO 14001

# What is ISO?

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# What is ISO?

► International Organization for Standardization (ISO)

► ISO develops International Standards. Founded in 1947, and since then have published over 19,500 ISO standards covering almost all aspects of technology and business.

► ISO develops standards required by the market place.

# What is ISO?

## ISO 14001: What it does for an Organization.

► Minimize harmful effects on the environment caused by its activities.

► Identify applicable regulatory requirements.

► Achieve continual improvement of its environmental performance.

# The Overall Aim of ISO 14001 Standard

**To support environmental protection and prevention of pollution.**

## ISO 14001:2004

- Developed in the mid 1990s

- Used by facilities worldwide

- Protect the environment and prevent pollution.

# Introduction of Environmental Management System

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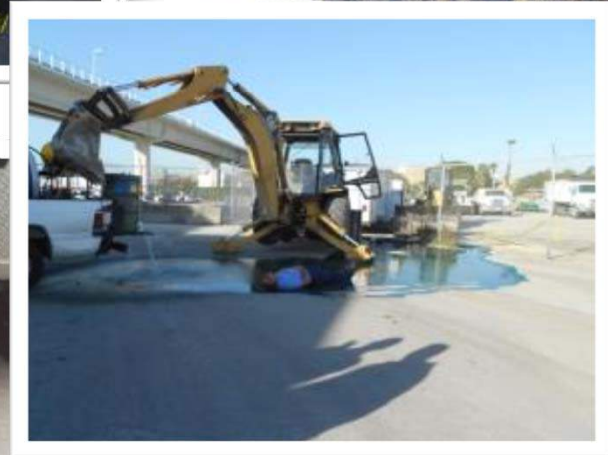
- **Awareness**

- **Commitment**

- **Responsibility**
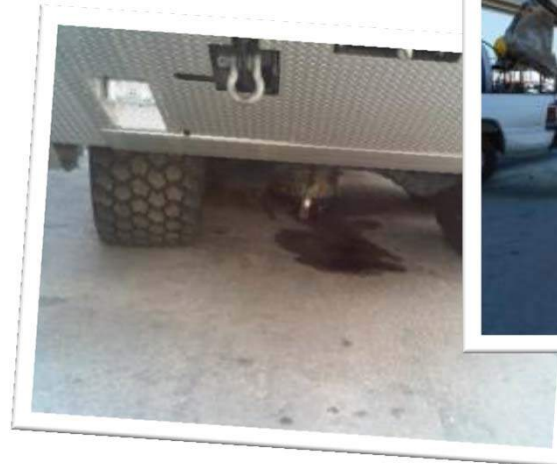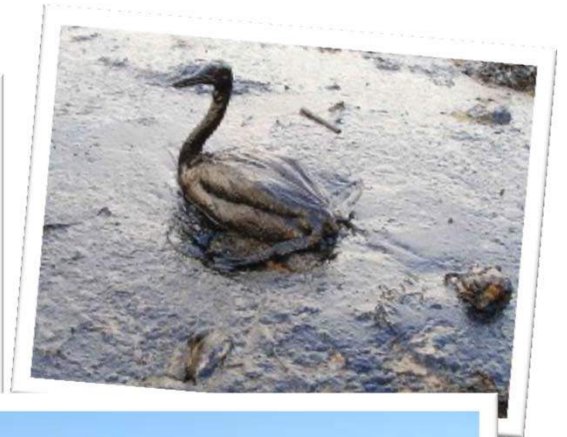
# Environmental Management System

- Accidents

- Lack of attention

- Negligence

- Lack of training

# EMS under ISO 14001 Standard

## The standard guides organizations to a clean environmental operation

### ISO 14001:2004

- Set performance criteria

- Specify operating conditions



ISO 14001

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Certification

**The standard guides organizations to a
clean environmental operation.**

# Each facility is responsible for controlling its own environmental impacts.

# Environmental Management System
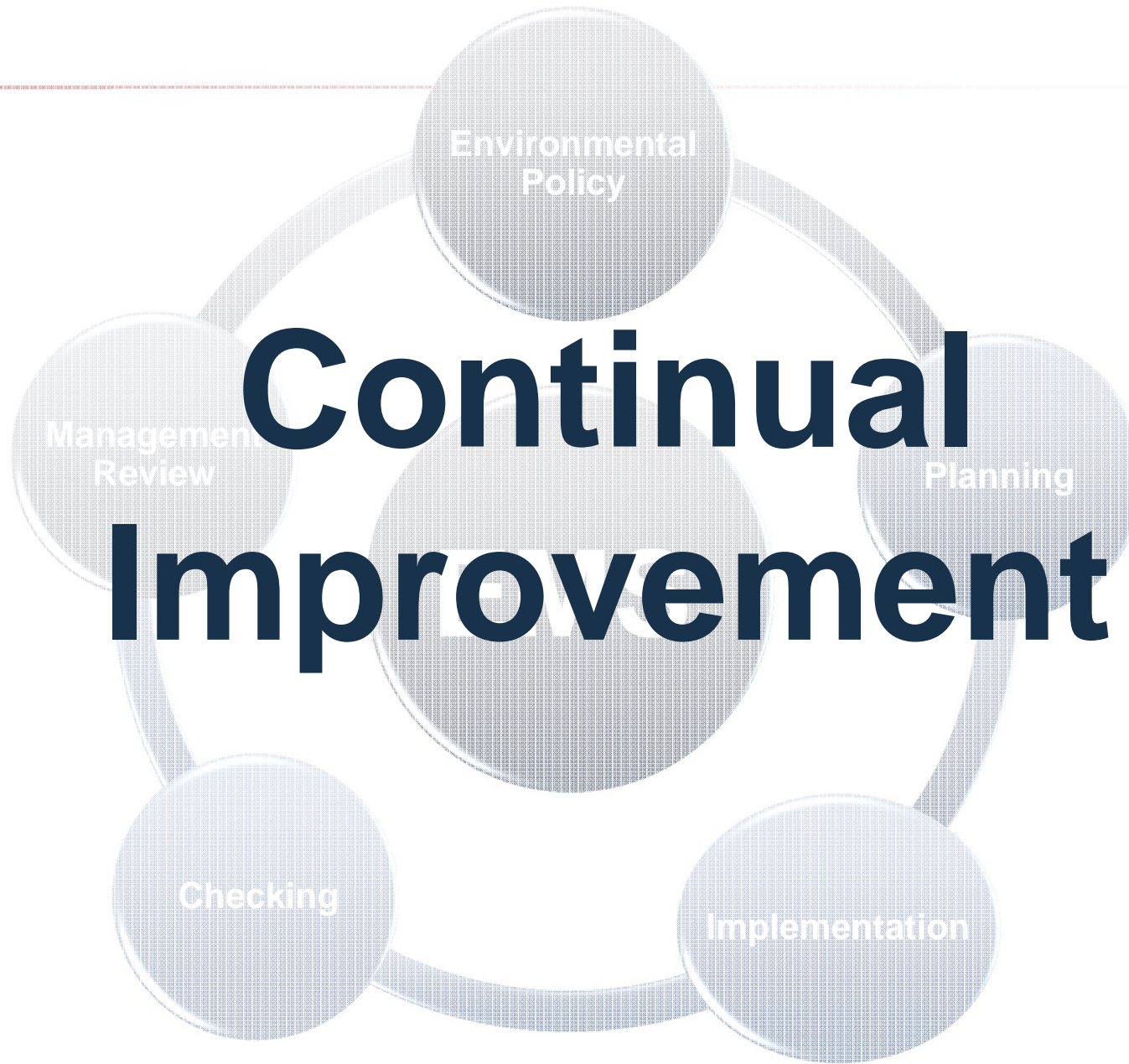
**The purpose of an EMS is to:**

- To coordinate environmental operations

- To see that environmental objectives are integrated into operational goals

# Environmental Management System

**Plan** → Pollution Prevention → Protecting the Environment

**Do** → Execute the Plan → Document

**Check** → Improve Your Performance

**Act** → Continual Improvement

Continual Improvement

- Environmental Policy
- Planning
- Implementation
- Checking
- Management Review

## Environmental Policy

**Top management defines the environmental policy and their environmental commitment for:**

- Pollution prevention
- Waste reduction
- Decreased consumption
- Conformance

# Environental Management System

## Planning

► Environmental aspects and impacts

► Legal and other requirements

► Objectives, target and programs

# 4.3.1 Environmental Aspects

## Understand Environmental Aspects (What is important?)

### Significant Environmental Aspects

Typical considerations for significance include:

- Regulations or legislation

- Views of interested parties

- Type of environmental impact

- Scope

- Probability (likelihood) or frequency (ongoing/intermittent)

- Consequences or who/what is affected

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### Key Elements of an EMS

- **Environmental Management System**

- **Environmental Policy**

- **Environmental Aspects**

- Legal and other requirements

- Objectives, targets and programs

- Resources, roles, responsibility and authority

- Competence, training and awareness,

- Communication

- Documentation

- Control of documents

- Operational control

- Emergency preparedness and response

- Monitoring and measurement

- Evaluation of compliance

- Non conformance and corrective and preventive action

- Control of records

- Internal audit

- Management review

# 4.3.2 Legal and Other Requirements

## Understand Legal and Other Requirements (What is mandatory?)

An organization must identify legal and other requirements regarding their environmental aspects/impacts.

### Key Elements of an EMS

- Environmental Management System
- Environmental Policy
- Environmental Aspects
- **Legal and Other Requirements**
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# 4.3.3 Objectives, Targets and Programme(s)

## Objectives

What will be accomplished?

- Objectives must be consistent with…

    - _Environmental Policy_

    - Commitment to prevention of pollution

    - Compliance with legal and other requirements

    - Commitment to continual improvement

## Target

How much or to what extend?

## Program

Who, How or When will it get done?

# Environmental Management System

## Implementation

► Resources, roles, responsibility and authority

► Competence, training and awareness

► Communication

► Documentation

► Control of Documents

► Operational Controls

► Emergency preparedness and response

# 4.4.1 Resources, Roles, Responsibility and Authority

**Resources Include:**

► Human resources, specialized skills, organizational infrastructure, technology, and financial resources

**Roles, Responsibility and Authority:**

► Should be documented and communicated

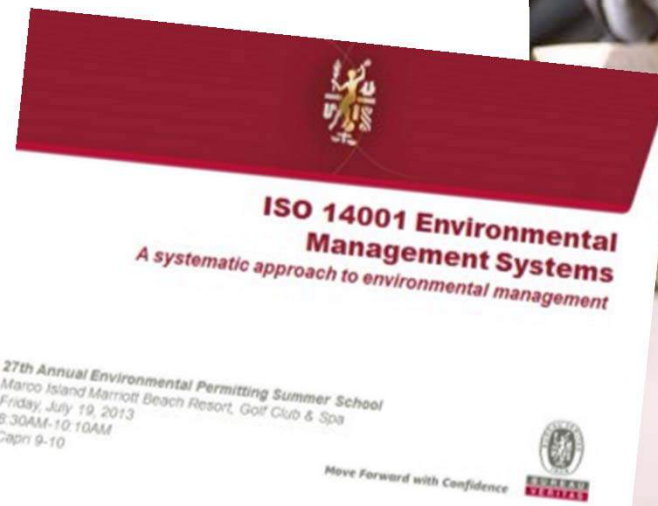**Top Management Appoints a "Management Representative(s) to:**

► Ensure EMS meeting requirements

► Report to top management on performance of EMS

## Focus on Competence

- Awareness (every employee)

- Auditing

- Operational Control/Work Instruction (jobs associated with significant environmental impacts)

# 4.4.6 Operational Control

**"Identify and plan operations associated with significant environmental aspects…in order to ensure they are carried out under specified conditions, by"**

► Documented procedures where needed.

► Establishing procedures related to significant aspects of goods and services used by the organization.

► Communicating applicable procedures and requirements to suppliers including contractors.

# 4.4.7 Emergency Preparedness and Response

**Identify potential accidents and emergency situations that have an impact on the environment**

An organization must establish procedures to:

► Identify the potential for and respond to accidents and emergencies

► Prevent and mitigate the environmental impacts



## Key Elements of an EMS

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- Documentation
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- **Emergency preparedness and response**
- Monitoring and measurement
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# Environmental Management System

## Checking

► Monitoring and measuring

► Evaluation of compliance

► Non Conformity, corrective and preventive action

► Control of records
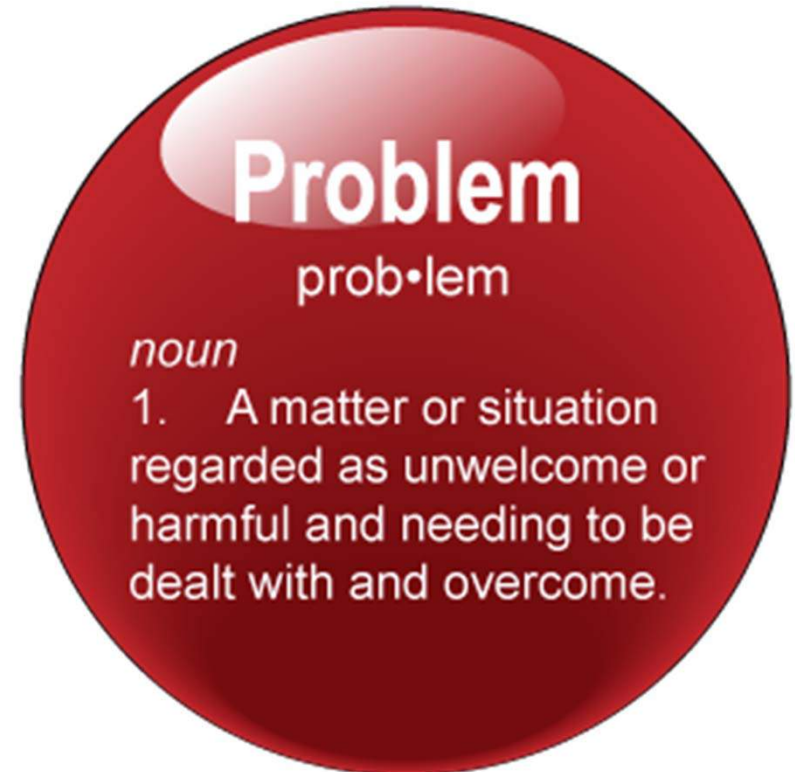
► Internal Audit

# Measurement and Evaluation Can Reveal

► Non-conformances

► Faulty operations or work practices

**Why do EMS problems occur?**

► Poor communication

► Faulty or missing procedures

► Equipment malfunction (lack of maintenance)

► Lack of training

► Lack of understanding (of requirements)

► Failure to enforce rules

► Corrective actions fail to address root causes of problems

## Problem
prob•lem

*noun*
1.   A matter or situation regarded as unwelcome or harmful and needing to be dealt with and overcome.

# Management Review

**Top management shall periodically review the EMS. The review focuses on:**

- Current level of environmental performance.

- Proposed improvements, changes, and new projects.

- Approvals and recommendations.

# EMS Model

# Certification – Process



APPLICATION

AUDIT 1

AUDIT 2

CERTIFICATION

SURVEILLANCE

# Organization Approach

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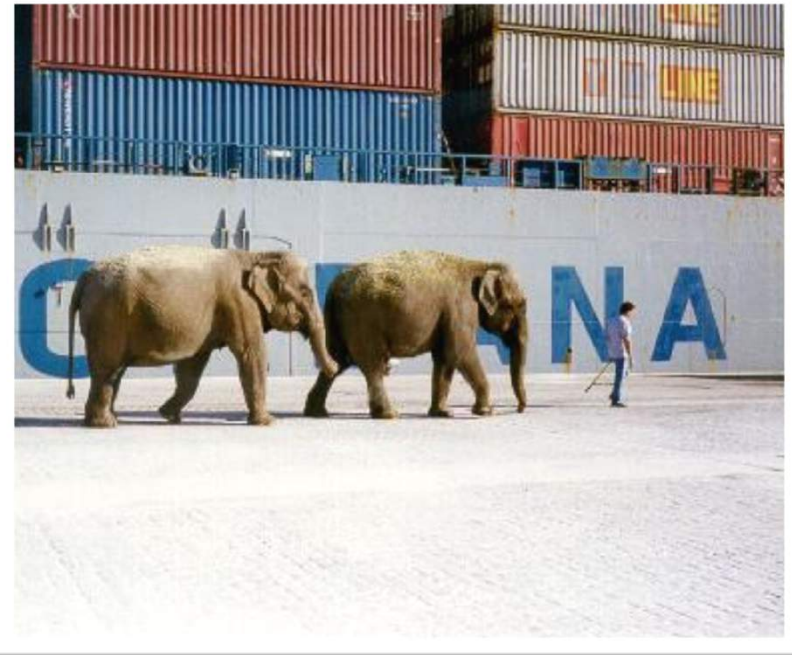# Over **80** years experience in freight transport.

# LAN Cargo Services



► **Freight Forwarders and Personal Shipments:** pets, relocation and parcel.

► **General Cargo:** Non-perishable goods that require special treatment.

► **Perishables:** Cargo that maintains its original state for a short period, for example seeds, fruits, vegetables, fresh flowers, meats, among others.

# LAN Cargo Services



► **Dangerous Goods:** Cargo that requires special attention and must comply with various governmental requirements to be transported by air.

► **Pharmaceuticals:** A comprehensive service that minimizes the time that the cargo is outside of the cold chain.

► **Live Animals:** All kinds of animals are transported on domestic and international routes, following the highest standards of quality.

# LAN Cargo Services

► **Charters and Special Projects:** For customers that require a full or partial aircraft to ship cargo to places not regularly operated or those that need a more flexible schedule.

► **Courier:** Provides preferential priority boarding on flights for customers specializing in parcel delivery.

► **Special Solutions:** Find information ocargo or difficult to handle cargo, mail and; transportation of human remains.

# Sustainability In LAN Cargo and Its Affiliates

Developed their own environmental policy in accordance to the commitments of the airline industry as supported by the International Air Transport Association.
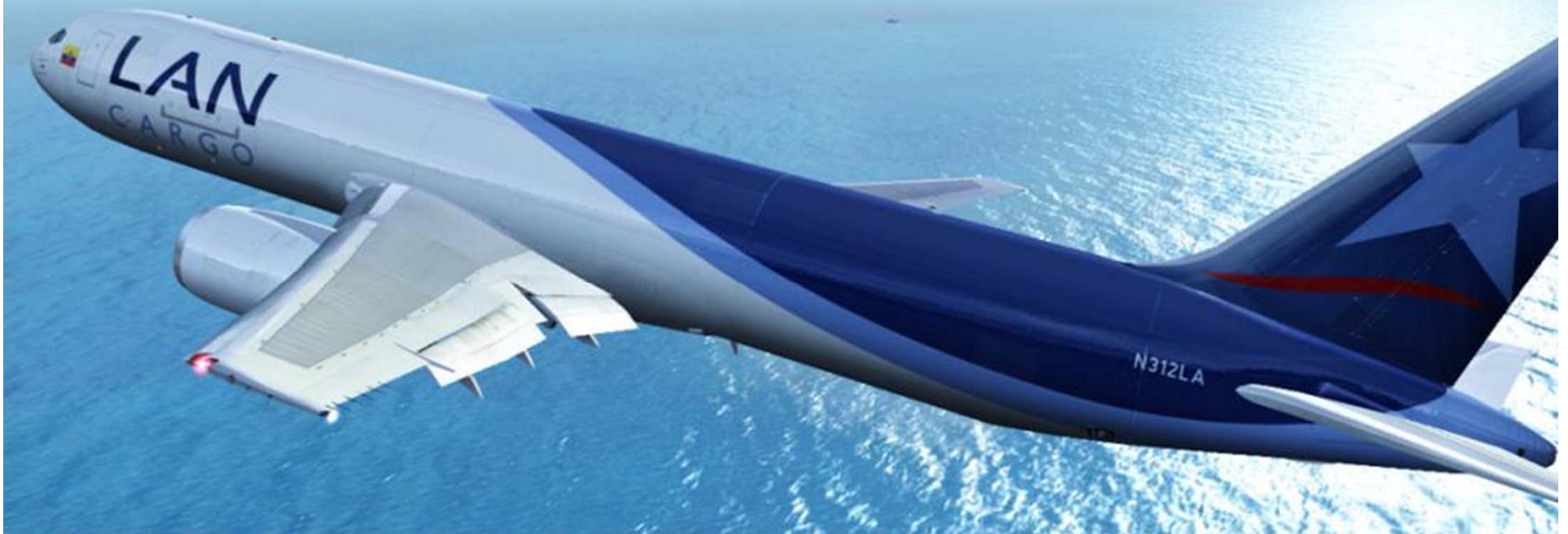
# Sustainability In LAN Cargo and Its Affiliates

**These policies are based on four pillars:**

## 1. Technological Investments

► Fleet Upgrades

► Noise Reduction

► Installation of Winglets

## 2. Improvement of Operational Efficiency

▶ E-Freight

▶ Recycling of plastics

▶ LEAN Project

## 3. Building and Using an Efficient Infrastructure

► Energy Efficiency

## 4. Other Economic Measures

► Measuring Carbon Footprint

► Green Aviation Partners

► $CO_2$ Emissions Calculator

► Sustainability Report

# Implementation in Miami of the EMS

► Much of what the EMS needs may be already on in place

► Exiting management processes

Cell Phone Donation Program

Business Video Conference

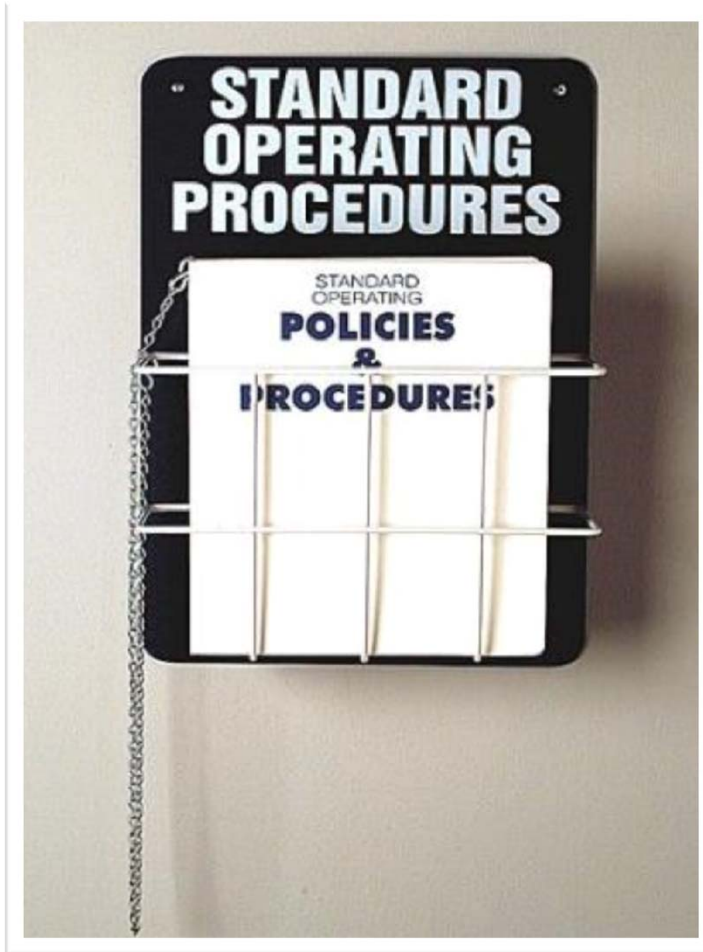Recycling Program

## Work Instructions

## Records and top management commitment

# Implementation Challenges?

- ► Cultural change, avoidance of the unknown.

- ► Developing awareness from all functional areas.

- ► Involving Top Performers and Managers.

- ► Obtaining and maintaining commitment.

- ► Maintain over time. (Focus on continual improvement to address the problems)

- ► High perceived cost and underestimation of benefits.

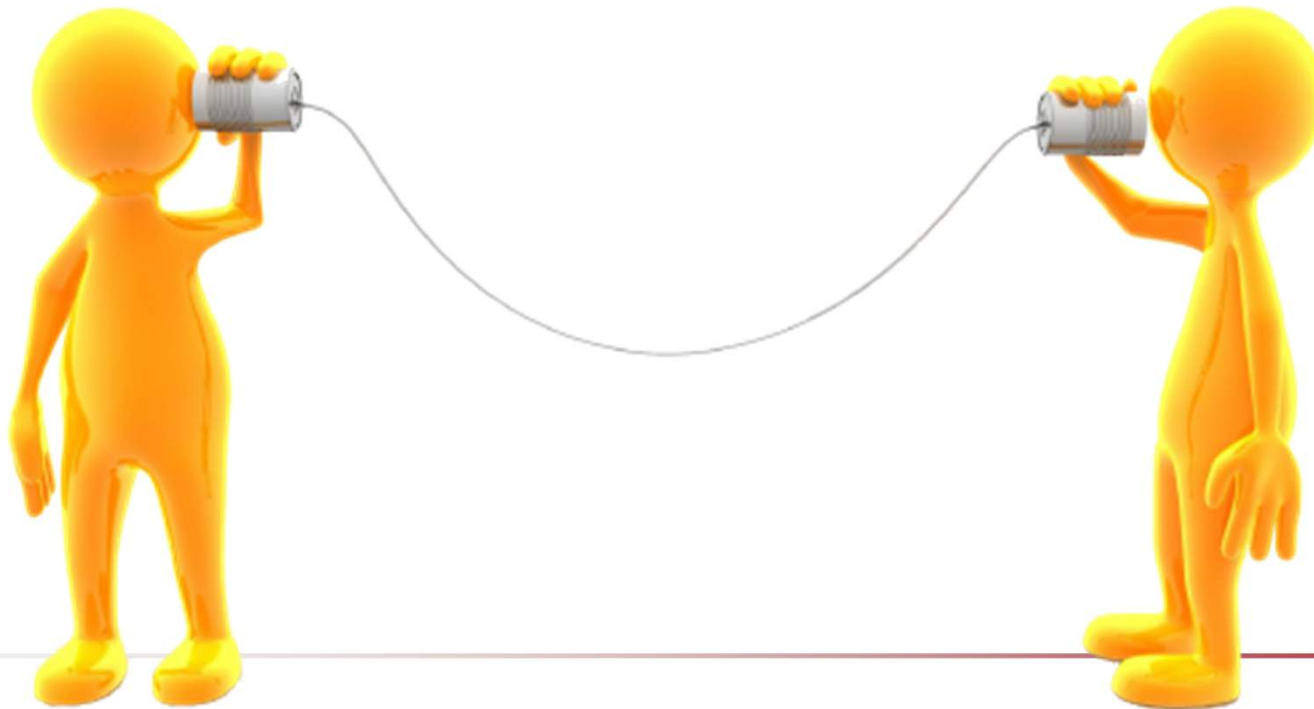- ► Inadequate resources.

# Who Should do the Implementation?

► The EMS implementation requires help and commitment from all the staff of the company. It is very important to have an Implementation leader, an Implementation internal team, and a Consultant provider.

► Implementing an EMS is going to be something that requires a real commitment from one or more key staff, and a smaller commitment from many staff in your organization

# Who should do the implementation?

**Top management should communicate to all employees the importance of:**

► Making the environment an organizational priority

► Integrating EMS throughout the organization

► Looking at problems as opportunities

# Supporting EMS elements



► Identify and develop documents and records required.

► Conduct training needs assessment.

► Establish procedures or document procedures.

► Identify and develop required measuring and monitoring programs.

► Compliance audit.

► Review and take corrective action.

► Conduct management review.

# Benefits of ISO 14001 EMS

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# The Benefits of ISO 14001

► Improved environmental performance

► Fewer accidents

► Improve public image

► Enhanced customer trust

► Meet customer requirements

Evaluation
OUTSTANDING
Excellent
Very Good
Average
Below Average

# The Benefits of ISO 14001

► Authenticity of ISO certification

► Reinforces or reorients market position

► Reduces the cost of waste management

► Provides an international advantage

► Limits legal liability

# The Benefits of ISO 14001

► ISO standards are internationally accepted, unlike some EMS standards

► Legitimizes an organization's environmental efforts

# The Benefits of ISO 14001

## Market Positioning

▶ **Reinforce**

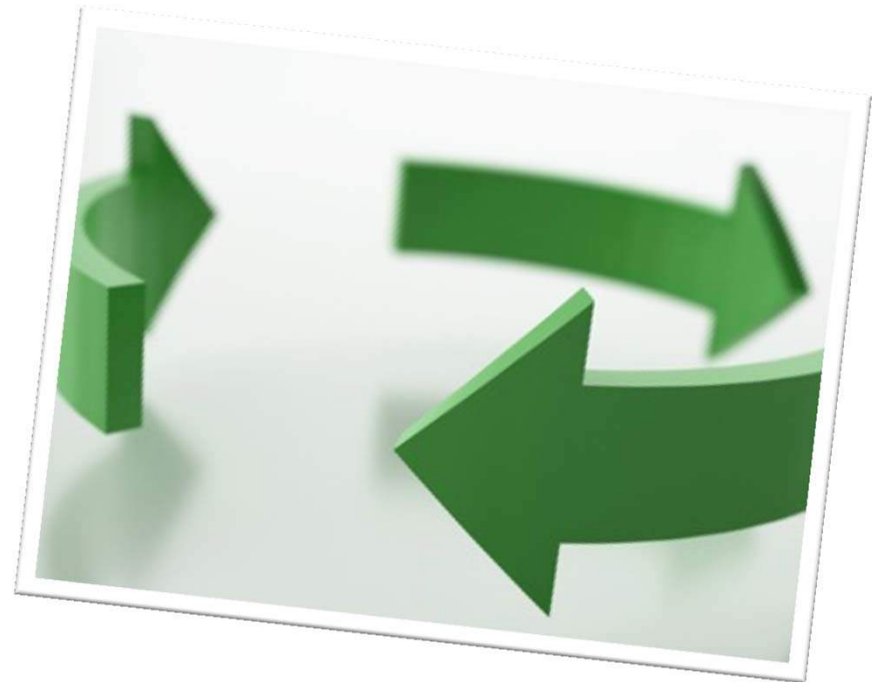- Reiterate adherence to environmentally friendly standards

▶ **Reorient**

- Strategic shift to clearly signal a new alliance with sustainable practices

## Waste Management Costs

► Effectively managing waste drives efficiency

► Reduces the need for government regulation

► Reduces regulatory compliance costs

► Fewer expenses for disposing of toxic waste

# The Benefits of ISO 14001

## International Advantage

► Internationally competitive at a reduced cost

► May align subsidiaries with parent company's environmental goals

► Strengthens international business relationships

► Provides access to new international markets

# The Benefits of ISO 14001

## Limiting Legal Liability

► Continual assessment of legal exposure reduces the likelihood of heavy legal penalties

► Improved corporate image among regulators, customers, and the public

► An environmental disaster response system reduces economic and environmental damage

# Legal and Other Requirements and the EMS

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# Who Are the Regulators and Enforcers Protecting the Environment?

# 4.3.2 Legal and Other Requirements

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# Legal and Other Requirements

# Legal and Other Requirements

► Federal Clean Air Act

► Federal Clean Water Pollution Act

► Solid Waste Disposal Act (Resource Conservation and Recovery Act)

► Comprehensive Environmental Compensation & Liability Act (CERCLA)

► Federal Facility Compliance Act

► Federal Insecticide, Fungicide and Rodentine Act (FIFRA)

► Hazardous Material Transportation Act

► Marine Protection, Research and Sanctuaries Act

► National Environmental Policy Act (NEPA)

► Oil Pollution Act (OAA)

► Safe Drinking Water Act (SDWA)

► Superfund Amendments and Reauthorization Act (SARA)

► Toxic Substance Control Act (TSCA)

► Used Oil Recycling Act

# 4.3.3 Legal and Other Requirements

**COMPLIANCE AND PERMITTING**

➢ Air Emissions tracking and permitting
➢ Emergency planning and community right-to-know act (EPCRA) reviews and reporting
  ➢ Material Safety Data Sheet (MSDS) reporting
  ➢ Inventory Reporting
  ➢ Toxic chemical release reporting (Form R)
➢ National Pollutant discharge elimination system (NPDES) evaluation and permitting
➢ Solid and hazardous waste management
  ➢ Hazardous waste contingency plans
  ➢ Waste minimization
➢ Spill Prevention Control, and Countermeasure (SPCC) Plans
➢ Storm water evaluations and plans – construction and industrial
➢ Wastewater permitting and compliance

**FEDERAL**

**Title 40 CFR – Protection of the Environment**

**STATE**

**Air Pollution Control**

**Chapter 62– Florida Administrative Code**

**Waste Management Rules (AST, Hazardous Waste, Used Oil Management)**

**Soil & Groundwater Cleanup Target Levels**

**Surface Water and Wetlands Rules**

**LOCAL**

**Development of Cleanup Target Levels (CTLs) for Chapter 24, Code of Miami-Dade County**

**South Florida Water Management District**

# 4.5.2 Evaluation of Compliance

## Compliance evaluation with legal and with other requirements.

Consistent with its commitment to compliance, the organization shall establish, implement and maintain a procedure (s) periodically evaluating compliance with applicable legal requirements.



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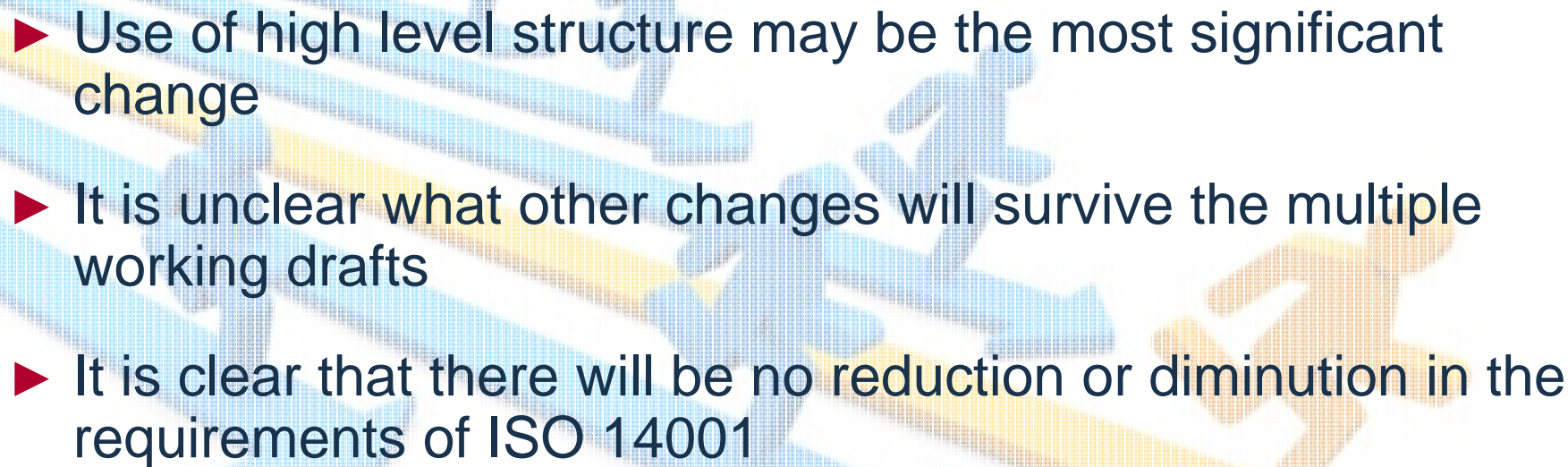- Internal audit
- Management review

# Future of ISO 14001

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# Looking Ahead

► Use of high level structure may be the most significant change

► It is unclear what other changes will survive the multiple working drafts

► It is clear that there will be no reduction or diminution in the requirements of ISO 14001

# Future of ISO 14001

## ISO 14001 Revision prompts greater focus on Environmental Compliance

► Revision will result in a higher demand for regulatory compliance services

► Move toward integrating a more proactive approach to legal compliance

► Required to demonstrate knowledge and understanding of their legal compliance status.

# Contact Information

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If you would like more information, please contact me.

# THANK YOU!