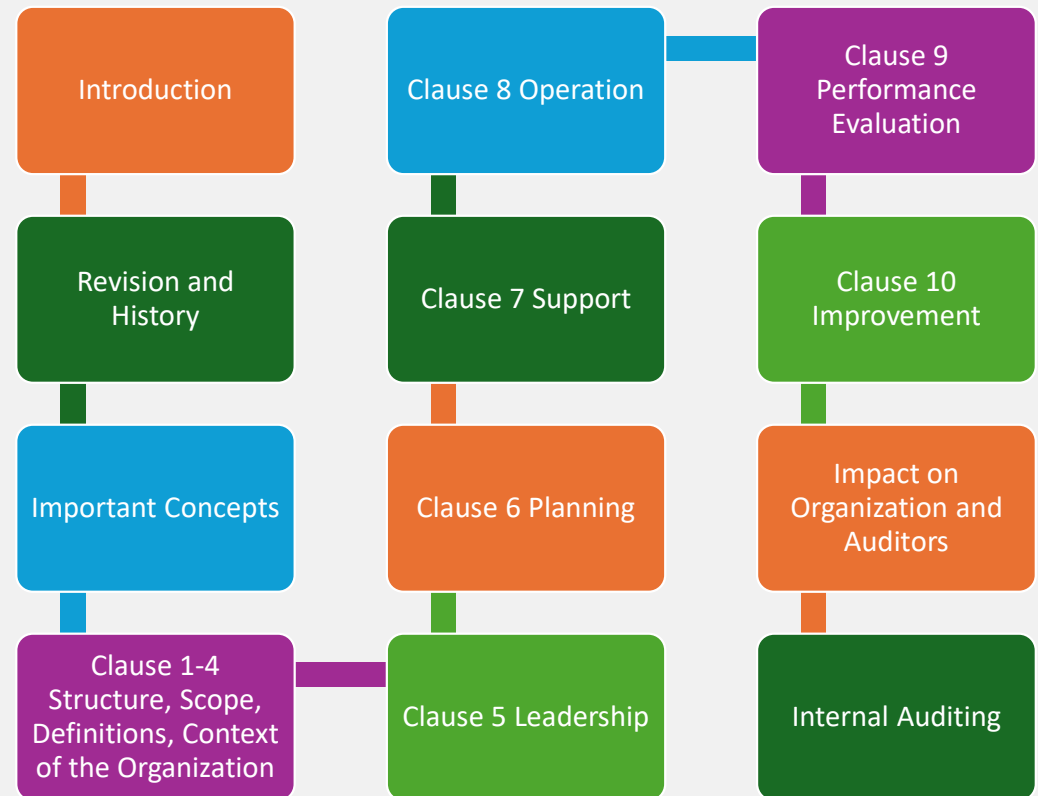


# Free ISO 14001:2015 Internal Auditor Training

From Quality Asia Certifications Private Limited



# Structure of the Course



# Objectives



Understand the principles and requirements of ISO 14001:2015



Develop skills as an internal auditor



Learn how to contribute to environmental management within the organization

# Outcomes

Contribute	Contribute to the organization's environmental management efforts
Conduct	Conduct Internal audits
Identify	Identify areas for improvement in the EMS
Implement	Implement corrective actions to address nonconformities
Support	Support the organization's commitment to environmental sustainability



# Trainer Introduction

## Mr. Atul Suri

- BE (Electrical), MBA
- **Certified Lead Auditor:**  
ISO 9001, 14001, 45001, 50001, 22000, 27001, 13485, and 26000
- **BEE Certified Energy Auditor (CEA)**
- **Professional Experience:**
  - **30+ Years** in the industry, with a strong foundation in engineering and management.
  - **20+ Years** as a seasoned Management Systems Auditor and Trainer, delivering expertise across multiple sectors.
  - Worked with Various Top Notch Certification Bodies as a Lead Auditor and Reviewer like Quality Asia, Intertek, Apave, Moody International, IRQS, etc



# About Quality Asia



**Mission:** Clearly state Quality Asia's mission, such as "To empower organizations with world-class quality standards and sustainable practices."

**Vision:** Describe the company's vision, like "To be the leading provider of quality assurance and certification solutions in India."

**NABCB accredited:** Quality Asia is accredited by the National Accreditation Board for Certification Bodies (NABCB), which means that their certifications are recognized internationally.

**Ethical Certifications:** We are committed to providing 100% audit and compliance services, ensuring transparency and integrity in every certification we issue.

**Comprehensive Expertise:** We specialize in ISO 9001, ISO 14001, ISO 45001, and more, offering a full spectrum of certification services tailored to your organization's needs.

**Free ISO 9001 Internal Auditor Training:** We empower your team with free training, helping you build internal expertise and maintain compliance with international standards.

**Global Reach, Local Touch:** Serving clients across multiple Indian cities and international locations, we combine global expertise with personalized local service.

**Commitment to Excellence:** Our mission is to support businesses in achieving and maintaining their certification, unlocking new opportunities and improving operational efficiency.

# ABOUT FREE LIVE INTERNAL AUDITOR PROGRAM

---

## Monthly Training Programs

We offer a focused training session on a different ISO standard each month, ensuring continuous learning and up-to-date knowledge for your team.

---

## Flexible Learning Options

Missed a session? No problem! Our training programs are available for later viewing through the Quality Asia School on our website, allowing you to learn at your own pace. Log on to [Quality Asia School](#)

---

## Our Mission

We are dedicated to increasing awareness about ISO standards and enhancing internal auditor competence. Our goal is to uplift industry operational standards by empowering professionals with the knowledge and skills they need to drive excellence in their organizations.

---

# ISO 14001:2015 – Revision History and Purpose





# ISO 14001 Revision



ISO 14001:1996: The original standard, focusing on environmental management systems (EMS).



ISO 14001:2004: Introduced a more process-based approach and aligned with other management systems standards.



ISO 14001:2015: The latest revision, emphasizing risk-based thinking, lifecycle assessment, and integration with other management systems.

# Revision Background

- ISO 14001 is an internationally recognized standard for Environmental Management Systems (EMS). Over the years, it has undergone several revisions to keep pace with evolving environmental concerns and best practices.



# Revision Background

---

## ISO 14001:1996

Focus: Primarily on environmental performance and compliance with regulations.

---

Approach: Introduced a systematic approach to environmental management, including planning, implementation, checking, and corrective action.

---

## ISO 14001:2004

Focus: Expanded to include a more process-based approach and aligned with other management systems standards (e.g., ISO 9001).

---

Key changes: Introduced the Plan-Do-Check-Act (PDCA) cycle, emphasized top management commitment, and clarified requirements for environmental policy and objectives.

---

## ISO 14001:2015

Focus: Further refined the standard to align with the high-level structure of other management systems standards, emphasizing risk-based thinking, lifecycle assessment, and stakeholder engagement.

---

Key changes: Introduced a risk-based approach to identify and address environmental risks and opportunities, emphasized the importance of leadership and commitment, and enhanced requirements for stakeholder engagement.

---

# Plan Do Check Act (PDCA) framework

## PLAN

Establish environmental objectives and the processes needed to deliver results

## DO

Implement the processes, as planned

## CHECK

Monitor and measure the processes against the policy, the objectives and the criteria, and report results

## ACT

Take actions to improve continually

# Why Environment Management

---

Sustainable development as a goal is achieved by balancing the three pillars of sustainability (environment, society and the economy) is considered essential to meet

---

As concern grows for continually improving the quality of the environment, organizations of all types and sizes are increasingly turning their attention to the environmental impacts of their activities, products and services.

---

The environmental performance of an organization is of importance to internal and external interested parties

---

Organizations to adopt a systematic approach to environmental management by implementing environmental management systems

# Sustainable development

- Meeting the needs of the present without compromising the ability of future generation to meet their own needs
- **ISO 14001** proposes a systematic approach to environmental management



# Environmental management system

- **Management system** - set of interrelated or interacting elements of an organization to establish policies and objectives and processes to achieve those objectives
- **Environmental management system** - used to manage environmental aspects, fulfil compliance obligations and address risks and opportunities





# Aim of an Environment Management System

- Protecting the environment by preventing or mitigating adverse environment impacts;
- Mitigating the potential adverse affects of environmental conditions on the organization;
- Assisting the organization in the fulfillment of compliance obligations;
- Enhancing environmental performance;
- Controlling or influencing the way the organization's products and services are designed, manufactured, disturbed, consumed and disposed by using a life cycle perspective that can prevent environmental impact from being unintentionally shifted elsewhere within the life cycle;
- Achieving financial and operational benefits that can result from implementing environmentally sound alternatives that strengthen to organization's market position;
- Communicating environmental information to the relevant interested parties.

For Training Purpose Only



# ISO 14001:2015

## Requirements for an environmental management system (EMS)

- Applicable to any organization
- First edition published in 1996, current in 2015

# The ISO 14000 series

## ISO 14004

Guidelines for the implementation of the EMS

## ISO 14002

Guidelines for specific topic areas (e.g. water, climate, resources and waste)

## ISO 14006

Guidelines for incorporating ecodesign

## ISO 14008

Monetary valuation of environmental impacts and aspects

...

# Structure of ISO 14001:2015

1. Scope
2. Normative references
3. Terms and definitions

4. Context of the organization

5. Leadership

6. Planning

7. Support

8. Operation

9. Performance evaluation

10. Improvement

→ Requirements for the EMS

# Clause 4: Context of the organization

S. No.	Clause No.	Clause name
1.	4.1	Understanding the organization and its context
2.	4.2	Understanding the needs and expectation of interested parties
3.	4.3	Determining the scope of the environmental management system
4.	4.4	Environmental management system

## 4.1. Context of the organization

- **Determine internal and external issues** that are relevant to the organization's purpose and that affect its ability to achieve the intended outcomes of the environmental management system (including **environmental conditions** affecting the organization or capable to affect it)



# Context of the Organization

## External issues

- Availability of utilities
- Access to financial resources
- Competition
- Supply chain
- Legislation
- ...

## Internal issues

- Governance and structure
- Resources and capabilities
- Culture of the organization
- Contractual relationships
- Policies and objectives
- ...

## Environmental conditions

- Higher temperatures
- Extreme weather events
- ...

# Internal and External Issues



For Training Purposes Only



**Monitor** internal and external issues

# Interested party (stakeholder)

Person or organization that  
can affect, be affected by, or  
perceive itself to be affected  
by a decision or activity





## 4.2. Needs and expectations of interested parties



Determine relevant **interested parties** (e.g. employees, investors, regulatory bodies, NGOs, customers, etc.)



Identify the **needs and expectations** of interested parties



Determine which of these needs and expectations become **compliance obligations**

# Compliance obligations

- **Legal requirements** that an organization must comply with and **other requirements** that an organization must or chooses to comply with



# Needs and expectations of interested parties

Interested party	Needs and expectations	Compliance obligations (yes/ no)
Investors	Expect proper management of risks and opportunities	Yes
Employees	Expect to work in a safe and healthy environment	Yes
Regulators	Expect compliance with laws and regulations	Yes
Customer X	Want at least 80% recycled materials in products	No

# Climate action changes

- The organization shall determine whether climate change is a **relevant issue**
- Relevant **interested parties** can have **requirements** related to climate change



## 4.3. Scope of the environmental management system

- The organization shall consider its ability to exercise **control and influence**
- All activities, products and services within the scope shall be **addressed by the EMS**
- The scope shall be maintained as **documented information** and available to interested parties





## 4.4. Environmental management system

- The organization shall **establish, implement, maintain and continually improve** an environmental management system



# Recapitulation (Context of the organization)

Understand the context	Understand stakeholders' requirements	Establish the scope	Environmental management system
Determine internal and external issues relevant for the environmental management system	Determine stakeholders and their needs and expectations	Establish the scope of the environmental management system	Establish, implement, maintain and continually improve an environmental management system

## • Clause 5: Leadership

S. No.	Clause No.	Clause name
1.	5.1	Leadership and commitment
2.	5.2	Environmental policy
3.	5.3	Organizational roles, responsibilities and authorities



# 5.1. Leadership and commitment

- Top management shall **demonstrate leadership and commitment** with respect to the environmental management system



## Leadership and commitment



Take **accountability** for the effectiveness of the EMS



Make **resources** available



**Integrate** the EMS into the business processes



**Communicate** on the importance of effective environmental management



# Leadership and commitment

- **Support** others to demonstrate leadership
- Promote continual **improvement**
- **Direct and support** individuals to contribute to the EMS  
Ensure that an environmental **policy** and environmental  
• **objectives** are established

## 5.2. Environmental policy

- Top management shall **establish, implement and maintain** an environmental policy



# Environmental policy

- **Appropriate** to the purpose and context of the organization
- Provides a framework for setting environmental **objectives**
- Commitment to **protect the environment**, including
  - to prevent pollution
  - Other **commitments** (e.g. sustainable use of resources, climate change mitigation and adaptation, protection of biodiversity, etc.)
- Commitment to **fulfilling compliance obligations**
- Commitment for **continual improvement**

# Environment Policy

- Available as **documented information**
- **Communicated** within the organization
- **Available** to interested parties

For Training Purpose Only





## 5.3. Organizational roles, responsibilities and authorities

- Top management shall ensure that the **responsibilities and authorities** for relevant roles are assigned and communicated within the organization



# • Assign responsibility and authority for.

- **ensuring** that the EMS conforms to ISO 14001
- **reporting** on the performance of the EMS to the top management



# Environmental management system responsibilities (Example)

<b>Managers</b>	<b>Purchasing</b>
<ul style="list-style-type: none"><li>• Ensure that the organization meets compliance obligations</li><li>• Develop objectives in relation to environmental management</li></ul>	<ul style="list-style-type: none"><li>• Define environmental related requirements for suppliers and criteria for their evaluation</li></ul>
<b>Sales and marketing</b>	<b>All personnel</b>
<ul style="list-style-type: none"><li>• Identify customer requirements that relate to environmental management</li></ul>	<ul style="list-style-type: none"><li>• Conform to EMS requirements</li><li>• ...</li></ul>

# Recapitulation (Leadership)

Leadership and commitment	Environmental policy	Roles, responsibilities and authorities
Top management shall demonstrate leadership and commitment with respect to the environmental management system	Establish, implement and maintain an environmental policy. Communicate the policy within the organization and make it available to interested parties	Ensure that responsibilities and authorities relevant for environmental management are assigned and communicated

Guest speaker

# • MR SANDEEP SHARMA (FLIPKART GROUP OF COMPANIES)

- Sandeep Kumar Sharma,
- Graduate Engineer in E & C and MBA (Marketing).
- Lead Auditor for ISO 9001 & ISO 14001.
- 24+ years experience in Service Operations & Quality Domain.
- F1 Info Solutions & Services Pvt Ltd & Jeeves Consumer Services Pvt Ltd (Flipkart Group of Companies) as Manager Quality Assurance.
- F1 into repairs of Mobiles, Laptops and other Electronic Products
- Jeeves is into Installation & Repairs of TV, AC, HA, Fur. & Other Products which are bought by Customers through Flipkart Portal.



# Benefits of Implementing ISO 14001:2015 in organizations



It helps organizations improve their environmental performance through more efficient use of resources.



Legal compliance. Getting ISO 14001 certified ensures you are keeping up to date with legal regulation.



Reduction of waste.



Reduce Insurance costs.



Gaining a competitive advantage.



Trust of stakeholders.



Increased reputation with consumers.

# Benefits for Professional getting Certified for ISO 14001:2015 Internal Auditor Program



This training program dives deep into environmental management systems and equips you with the expertise to effectively audit organizations against the ISO 14001 standard.



A certified auditor improves total environmental performance and compliance.



Internal auditor helps increase efficiency and potential cost savings after managing environmental obligations.



You'll gain valuable knowledge that strengthens your credibility and marketability, making you a more sought-after professional.

# • Clause 6: Planning

S. No.	Clause No.	Clause name
1.	6.1	Action to address risk and opportunities
2.	6.1.1	General
3.	6.1.2	Environmental aspects
4.	6.1.3	Compliance obligations
5.	6.1.4	Planning actions
6.	6.2	Environmental objectives and planning to achieve them
7.	6.2.1	Environmental objectives
8.	6.2.2	Planning actions to achieve environmental objectives

## 6.1. Risks and opportunities

- The organization shall determine risks and opportunities that need to be addressed







# Risks and opportunities

- Determine risks and opportunities in relation to:
  - the environmental aspects,
  - compliance obligations and
  - other issues and requirements (part of the context)





# Potential emergency situations

- Determine **potential emergency situations**, including those that can have an environmental impact

## 6.1.2. Environmental aspects

- The organization shall **determine the environmental aspects** of its activities, products and services, that it can control and those that it can influence, and their associated **environmental impacts**, considering a **life cycle perspective**.



# Environmental aspects and impacts

## Environmental aspect

**Element** of an organization's activities, products or services that **interacts or can interact with the environment**

## Environmental impact

**Change to the environment**, which can be adverse or beneficial, resulting from an organization's environmental aspects

**Cause and effect**





- Consider the different **stages** in the product or service life cycle and the environmental aspects associated with each stage

# Smartphone life cycle



Life cycle stages	Environmental aspects	Environmental impacts	Observations
<b>Design</b>	Use of energy. Generation of waste.	Climate change. Pollution of the soil.	Under the organization's control. Ability to influence aspects associated with other life cycle stages
<b>Materials procurement</b>	Landscape degradation. Emissions.	Land and water pollution. Resource depletion. Climate change.	Limited control. Potential ability to influence environmental aspects
<b>Manufacturing</b>	Use of natural resources. Use of energy. Emissions. Generation of waste.	Soil, water and air pollution. Climate change. Resource depletion.	Under the organization's control
<b>Distribution and sale</b>	Emissions. Packaging waste.	Air, soil, water pollution. Resource depletion. Climate change.	Ability to control depends on the business model
<b>Use</b>	Use of energy. Generation of waste.	Climate change. Resource depletion. Pollution of soil, water.	Potential to influence environmental aspects
<b>End of life management</b>	Generation of waste.	Pollution of soil, water.	Potential to influence environmental aspects



## Determine environmental aspects considering...

---

The **activities** of the organization and the life cycle of its **products and services**

---

**Changes** (e.g., new or planned developments, new products, etc.)

---

**Abnormal conditions** (e.g. equipment failure, maintenance, installation shut- down and start-up, etc.)

---

Foreseeable **emergency situations** (e.g., natural disasters, power outages, accidental spills, etc.)

# Environmental aspects

- Emissions to air
- Releases to water
- Releases to land
- Use of raw materials and natural resources
- Use of energy
- Energy emitted (e.g. heat, radiation, vibration (noise) and light)
- Generation of waste and/ or by-products
- Use of space





# Significant environmental aspects

- The organization shall determine, using established **criteria**, those aspects that have or can have a **significant environmental impact**.
- **Significance is** a concept **relative** to an organization and to its context



# Determining significance

Environmental aspect	Frequency	Severity	Score	Legal requirements (?)	Concerns of interested parties (?)	Significant aspect?
GHG emissions	Very high (5)	High (4)	High (20)	...	...	Yes
Wastewater discharges	Medium (3)	High (4)	Medium (12)	...	...	Yes
Paper waste	High (4)	Very low (1)	Very low (4)	...	...	No

Quantification	Score
Very low	1-5
Low	6-10
Medium	11-15
High	16-20
Very high	21-25

## Sample Environment Aspect Impact Analysis

## 6.1.3. Compliance obligations

- **Determine** and have access to relevant compliance obligations
- Determine how compliance obligations **apply**
- Take compliance obligations **into account**



# Compliance obligations in relation to the EMS

- Commitment in the **environmental policy** for fulfilment of compliance obligations
- Consideration of compliance obligations when establishing
  - **environmental objectives**
- **Awareness** of the implications of non-compliance
- Consider compliance obligations for the **communication processes**
- **Evaluate fulfilment** of compliance obligations regularly
- Review fulfilment of compliance obligations during **internal audits and management reviews**
- **Address** situations where compliance obligations are not met

# List of Environmental Acts in India

- **Environment (Protection) Act, 1986:** This is a comprehensive act that provides the framework for environmental protection in India. It has been amended several times over the years to address emerging environmental challenges.
- **Water (Prevention and Control of Pollution) Act, 1974:** This act regulates water pollution and establishes pollution control boards.
- **Air (Prevention and Control of Pollution) Act, 1981:** This act regulates air pollution and sets standards for ambient air quality.
- **Hazardous Waste (Management, Handling and Transboundary Movement) Rules, 2016:** These rules govern the management of hazardous waste.
- **E-Waste (Management and Handling) Rules, 2016:** These rules regulate the management of electronic waste.
- **Bio-medical Waste (Management and Handling) Rules, 1998:** These rules govern the management of biomedical waste.
- **Noise Pollution (Regulation and Control) Rules, 2000:** These rules regulate noise pollution.
- **Energy Conservation Act, 2001:** This act promotes energy conservation.
- **Forest Conservation Act, 1980:** This act regulates the conservation of forests.
- **The Biological Diversity Act, 2002:** To conserve biological diversity and ensure the sustainable use of its components.
- **The National Green Tribunal (NGT) Act, 2010:** To establish a specialized tribunal to deal with cases related to environmental protection and the conservation of forests and other natural resources.
- **The Batteries (Management and Handling) Rules, 2001:** To regulate the disposal and recycling of used batteries.

## 6.1.4. Planning action

- Plan to take **actions** to address:
  - significant environmental aspects
  - compliance obligations
  - risks and opportunities
- **Integrate and implement** the actions into the environmental management system processes or business processes
- Evaluate the **effectiveness** of actions



## 6.2.1. Environmental objectives

- **Establish** environmental **objectives** at relevant functions and levels considering the significant environmental aspects, the associated compliance obligations, risks and opportunities





# Environmental objectives

- Consistent with the environmental **policy**
- **Measurable** (if practicable)
- **Monitored Communicated**
- **Updated**, as appropriate
- +
- Maintain **documented information**



## 6.2.2 Planning to achieve environmental objectives

- **What** will be done (actions)
- **Resources** required **Responsibilities**
- **When** objectives will be completed
- How the **results** will be evaluated (indicators to track progress)



# Recapitulation (Planning)

Risks and opportunities	Environmental aspects and impacts	Compliance obligations
Determine risks and opportunities in relation to environmental aspects, compliance obligations and elements of the context	Determine environmental aspects of activities, products and services and their impacts, considering a life cycle perspective	Determine and have access to compliance obligations in relation to environmental aspects and take them into account within the EMS

# Recapitulation (Planning)

Planning action	Environmental objectives
Plan to take actions to address environmental aspects, compliance obligations, risks and opportunities	Establish environmental objectives at relevant functions and levels and plan for their achievement

# • Clause 7: Support

S. No.	Clause No.	Clause name
1.	7.1	Resources
2.	7.2	Competence
3.	7.3	Awareness
4.	7.4	Communication
5.	7.4.1	General
6.	7.4.2	Internal communication
7.	7.4.3	External communication
8.	7.5	Documented Information
9.	7.5.1	General
10.	7.5.2	Creating and updating
11.	7.5.3	Control of documented information



## 7.1. Resources

- **Determine** and **provide** the resources needed for the environmental management system (people, infrastructure, equipment, financial resources, information systems, externally provided services, etc.)

## 7.2. Competence

- Determine the **necessary competence**
- Ensure persons are **competent** (based on education, training, experience)
- Determine **training needs**
- **Take actions** for people to acquire competence (provision of training, mentoring, re-assignment of currently employed persons, contracting...)
- Evaluate the **effectiveness** of the actions taken

## 7.3. Awareness

- Top management shall ensure that persons who work under the organization's control are **aware** of:
  - the environmental **policy**;
  - significant **environmental aspects** of their work;
  - their **contribution** to the EMS;
  - **implications** of not conforming to requirements.

## 7.4. Communication

- Establish, implement and maintain processes for internal and external communications relevant to the EMS







# Communication

**On What**

**When**

...to communicate

**With whom**

**How**

Consider **compliance obligations** and communicate **reliable** information, **consistent** with that generated within the EMS





# • Internal and external communications

- **Internal communication** - between various levels and functions in the organization (including a method to receive suggestions, comments)
- **External communication** - with external parties (including a response to communications received)

- **Documented information**, as evidence



## 7.5.1. EMS documentation

- **2 categories** of documents:
  - documents required by ISO 14001
  - documents not required by the standard, but considered necessary by the organization
- The extent of documented information for the EMS can vary from one organization to another.

# EMS documentation

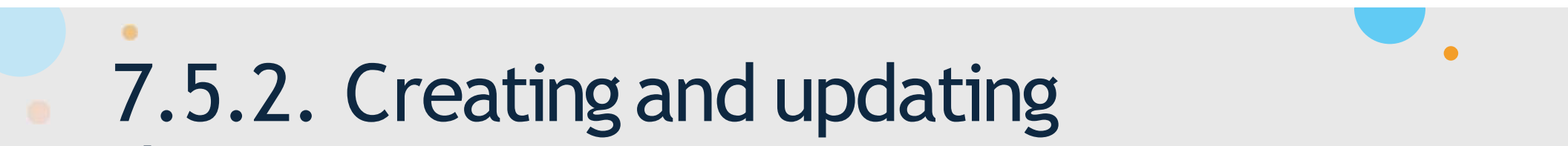
## Documented information required by ISO 14001:2015

- Scope of the EMS
- Environmental policy and objectives
- Risks and opportunities
- Environmental aspects and impacts + criteria to determine significance
- Compliance obligations
- Competence of personnel
- Communications related to the EMS

# EMS documentation

## Documented information required by ISO 14001:2015 (continued)

- Documents to prove that processes are carried out as planned
- Preparing for and dealing with emergency situations
- Monitoring, measurement, analysis and performance evaluation
- Internal audits
- Management review
- Evaluation of compliance
- Nonconformities and results of corrective actions



## 7.5.2. Creating and updating documents

- Identification and description
- Format and media
- Review and approval



## 7.5.3. Control of documented information

- EMS documents shall be controlled to ensure **availability, suitability and protection**
  - Distribution and use
- Access
- Storage and preservation
  - Control of changes
  - Retention
  - Disposition
- 
- Internal + external-origin documents

# Recapitulation (Support)

Resources	Competence	Awareness
Determine and provide the resources needed for the environmental management system	Establish a process to ensure that the competence required for the persons who can impact environmental performance is available	Ensure the awareness of those working on behalf of the organization



# Recapitulation (Support)

## Communication

Establish effective processes for internal and external communications relevant for the environmental management system

## Documented information

The EMS documentation includes the documents required by ISO 14001 and those not required but considered necessary. Control documented information to ensure it is available, suitable and adequately protected

# • Clause 8: Operations

S. No.	Clause No.	Clause name
1.	8.1	Operational planning and control
2.	8.2	Emergency preparedness and response

## 8.1. Operational planning and control

- Control processes to fulfil the commitments in the environmental policy, to manage significant environmental aspects, to meet compliance obligations and to achieve the environmental objectives





# Environmental controls

Elimination

Substitution

Engineering controls

Administrative controls

Maintain **documented information** to the extent necessary to have confidence that the processes are carried out as planned

# Controlling changes

- **Control** planned changes, **review** the consequences of unintended changes and take action to **mitigate** adverse effects

For Training Purpose Only





# Life cycle perspective

Address environmental aspects of different life cycle stages in the **design and development** of products/ services

Determine and communicate requirements for **procurement**

Consider the need to **provide information** about potential significant environmental impacts associated with the transportation, delivery, use, end-of-life treatment and final disposal of products/ services



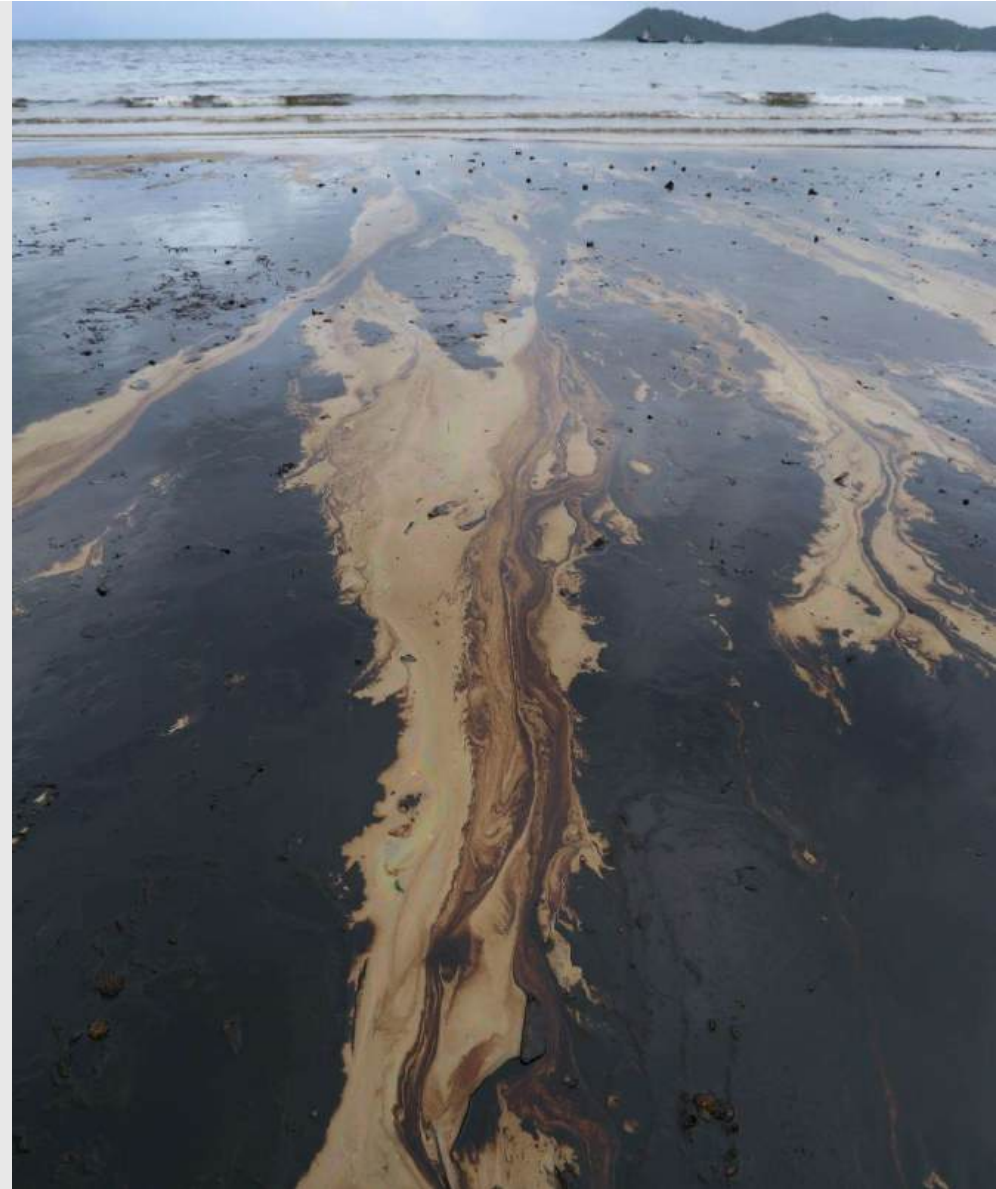
# Outsourced processes

- **Control or influence** outsourced processes
- The **type and extent** of control or influence shall be **defined** within the environmental management system



## 8.2. Prepare for and respond to emergency situations

- **Consider** foreseeable emergencies
- **Prepare** to respond and to mitigate adverse environmental impacts
- **Respond** to emergency situations



# Testing the plans and preparations

Periodically test the planned response actions, where practicable

**Review and revise** the processes and planned response actions

Maintain **documented information**



# Recapitulation (Operation)

## Operational planning and control

Control processes to address significant environmental aspects, to meet compliance obligations, to treat risks and opportunities and to achieve objectives

## Emergency preparedness and response

Prepare for and respond to emergency situations. Test periodically the emergency plans and preparations

# • Clause 9: Performance Evaluation

S. No.	Clause No.	Clause name
1.	9.1	Monitoring, measurement, analysis and evaluation
2.	9.1.1	General
3.	9.1.2	Evaluation of Compliance
4.	9.2	Internal audit
5.	9.2.1	General
6.	9.2.2	Internal audit programme
7.	9.3	Management review

# 9.1. Monitoring, measurement, analysis and performance evaluation

- **What** to monitor and measure
- **Methods** (to ensure valid results)
- **When** to monitor and measure
- **When** to analyze the results of monitoring and measurement
- **Criteria** to evaluate performance + appropriate **indicators**



# Monitoring and measurement

- Monitoring and measurement **equipment** must be
- **calibrated** and/ or **verified**
- Select appropriate **indicators** (e.g. energy or water consumption, waste generated/ recycled, carbon or water footprint, number of complaints, etc.)





# Analysis and evaluation

- **Analyze** the data obtained from monitoring and measurement and **evaluate** the environmental performance and the effectiveness of the EMS
- **Communicate** relevant environmental performance information internally and externally
- Retain **documented information** as evidence of monitoring, measurement, analysis and evaluation



## 9.1.2. Evaluation of compliance

- Determine the **frequency** for compliance evaluation
- **Evaluate compliance** and take actions as needed
- Maintain **knowledge and understanding** of compliance status

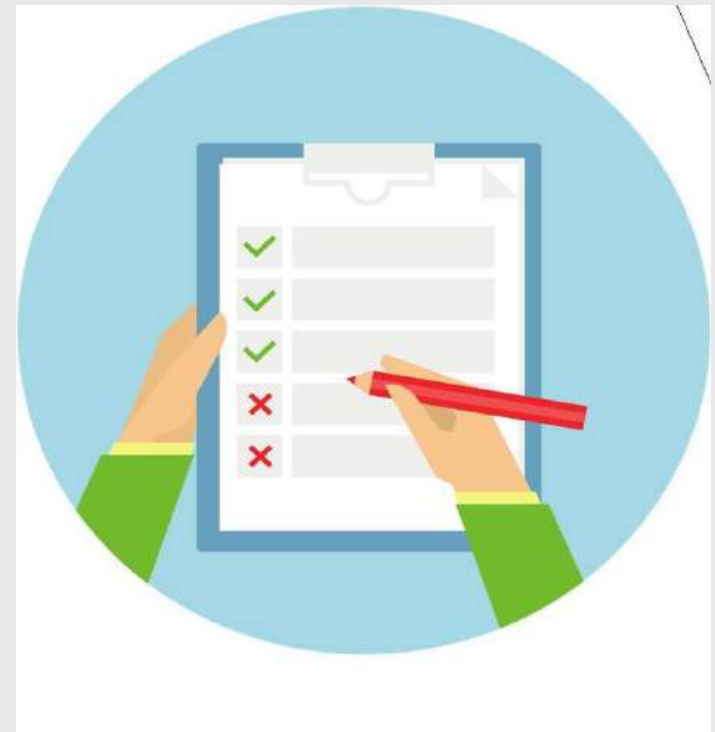
For Training Purpose Only

- Retain **documented information** as evidence

## 9.2. Internal audit

- Conduct internal audits at **planned intervals**
- to determine whether the EMS:
  - **conforms** to requirements
  - is effectively **implemented and maintained**

For Training Purpose Only



## 9.2.2 Audit programme

- Establish an **audit programme** (frequency, methods, responsibilities, planning and reporting requirements)
- Consider the environmental **importance** of processes, **changes**, and results of **previous audits**



# Conducting Internal audit

- Appoint **competent** and **impartial** auditors
- Define audit **objectives, scope** and **criteria**
- Elaborate an **audit report**
- **Report** results to management
- Retain **documented information**

## 9.3. Management review

- Top management shall review the EMS at planned intervals, to ensure its continuing **suitability, adequacy and effectiveness**



# Inputs to the management review

- **Changes** (context, environmental aspects, risks and opportunities)
- **Communications** from interested parties
- Status of environmental **objectives**
- Environmental **performance**
- Adequacy of **resources** for the EMS
- Actions from **previous reviews**
- Opportunities for **improvement**



# • Outputs of the management review

- **Conclusions** about the suitability, adequacy and effectiveness of the EMS
- Continual **improvement** decisions
- Possible **changes** to the EMS
- Actions to achieve environmental **objectives**
- **Integration** of the EMS with business processes
- Implications for the **strategic direction** of the organization



# Recapitulation (Performance evaluation)

Monitoring, measurement, analysis and evaluation	Evaluation of compliance	Internal audit	Management review
Monitor, measure, analyse and evaluate the environmental performance	Evaluate fulfilment of compliance obligations	Conduct internal audits of the EMS at planned intervals	Top management shall review the EMS to ensure its adequacy, suitability and effectiveness

# • Clause 10: Improvement

S. No.	Clause No.	Clause name
1.	10.1	General
2.	10.2	Nonconformity and corrective actions
3.	10.3	Continual improvement





**Nonconformity –  
non-fulfilment of a  
requirement**



## 10.2. Managing nonconformities

- **React** (control and correct the nonconformity and deal with the consequences)
- Review the nonconformity to determine its **cause(s)**
- Determine and implement **corrective actions**
- Review the **effectiveness** of corrective actions
- Make **changes** to the EMS (if necessary)
- Retain **documented information**

## 10.3. Continual improvement

- The organization shall **continually improve** the suitability, adequacy and effectiveness of its environmental management system to enhance environmental performance



# Continual improvement

- **Encourage** employees and other stakeholders to suggest improvements
- **Top management** should promote improvement
- Useful **sources** of improvement information
  - experience, benchmarking, audits, data analysis, literature, feedback, etc.



# Environmental management system

## Context of the organization (4)

Determine relevant internal and external issues part of the context.  
Establish if climate change is a relevant issue.  
Identify interested parties and their needs and expectations.  
Determine the scope of the EMS.  
Establish, implement, maintain and continually improve an EMS.

## Leadership (5)

Top management shall demonstrate leadership and commitment with respect to the EMS.  
Establish, implement and maintain an environmental policy.  
Assign and communicate responsibilities and authorities in relation to the EMS for the different roles in the organization.



# Environmental management system

## Planning (6)

Determine risks and opportunities, including potential emergency situations.

Determine environmental aspects and associated impacts.

Determine which environmental aspects have a significant impact.

Determine relevant compliance obligations.

## Planning (6)

Plan to take actions to address significant environmental aspects, compliance obligations, risks and opportunities.

Establish environmental objectives and plan for their achievement.

# Environmental management system

## Support (7)

Determine and provide the resources necessary for the EMS.  
Establish a process to ensure competency.  
Ensure the awareness of those working on behalf of the organization.

## Support (7)

Establish effective processes for internal and external communication.  
Control the documented information of the EMS.

# Environmental management system

## Operation (8)

Control processes to ensure that environmental requirements are met.  
Consider the life cycle of products and services when establishing controls.  
Control or influence outsourced processes.  
Prepare for emergency situations, test and improve the preparations.

## Performance evaluation (9)

Monitor, measure, analyse and evaluate the environmental performance.  
Evaluate the fulfilment of compliance obligations.  
Conduct internal audits of the EMS at planned intervals.  
Top management shall review the EMS periodically to ensure that it continues to be suitable, effective and adequate.

- Environmental management system

### Improvement (10)

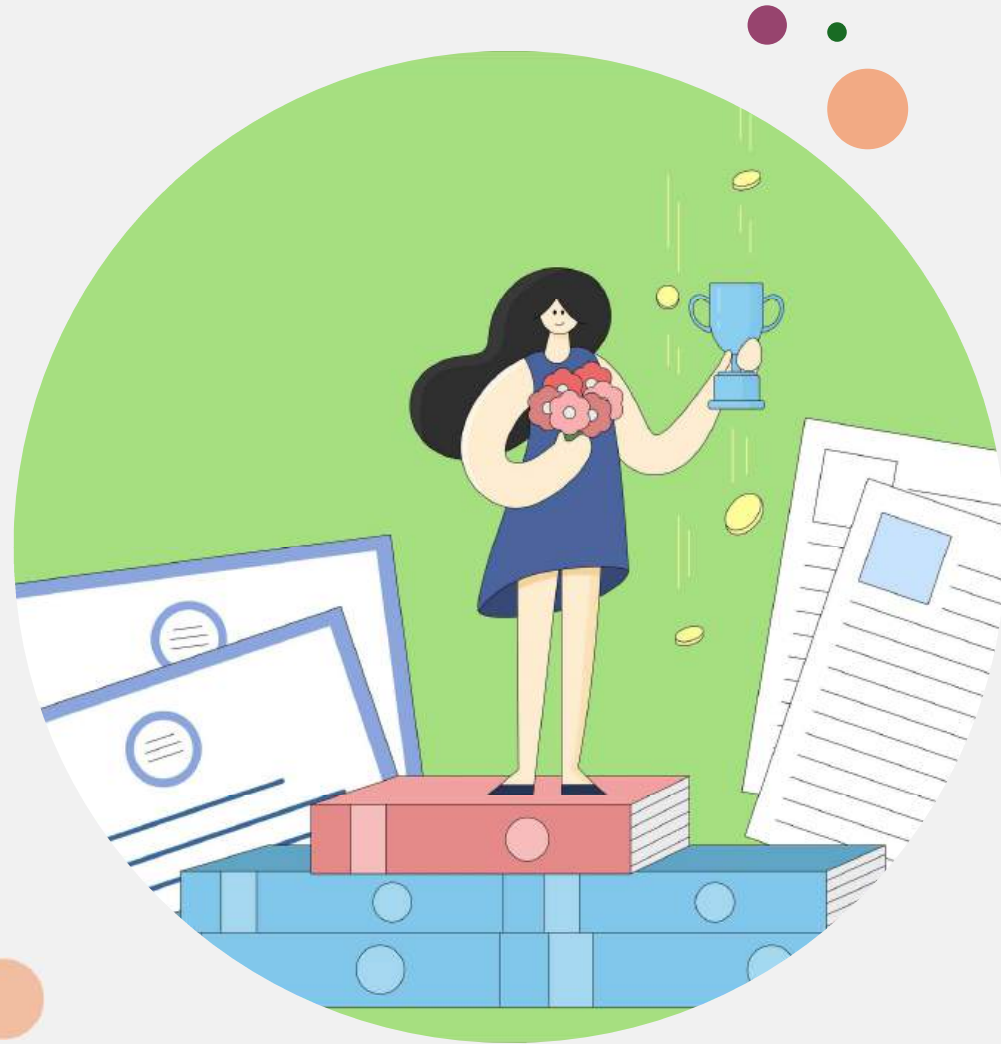
Manage nonconformities addressing their causes with corrective actions.

Improve continually the EMS to enhance environmental performance.

# Certification for organizations

- **Any organization** can be certified for its EMS
- An **audit** of the EMS shall be conducted (initial certification audit)
- The certification is usually valid for **3 years**
- Annual **surveillance audits** are conducted

- Visit Us:  
<https://www.qualityasia.in/contact.php>



# Audits: Definition, Principles, and Types



# Audit

- “Systemic, independent and documented process for obtaining audit evidence and evaluating it objectively to determine the extent to which audit criteria are fulfilled.”
- **Alternative Definitions:**
  - Impartial documented activity
  - Follows written checklists and documentation
  - Uses examination of audit evidence to determine the existence of objective evidence
  - Verifies that applicable processes of a QMS have been identified and are effectively controlled.



# Effective Audits - Requirements



Timely access to facilities, documents and personnel, including top management



Defined auditing procedures



Support/involvement of management



Competent audit team



Impartial and objective audit team

# Types of Audits

First Party Audit	Second Party Audit	Third Party Audit
<b>Definition:</b> An Audit by the organization of its own systems and procedures.	<b>Definition:</b> An assessment by a body which is independent of the organization, its suppliers and customers.	<b>Definition:</b> An audit performed by the organization on suppliers and sub-contractors
<b>Objective:</b> To assure maintenance and development of the quality system.	<b>Objective:</b> To determine that an organization's quality system has been documented and implemented according to a specified standard.	<b>Objective:</b> To determine suitability of suppliers and sub-contractors, and to appraise suppliers' and sub-contractors' performance.

---

# Phases of an Audit

## Phases of an Audit

- Planning
- Preparation
- Performance
- Reporting and Follow Up

## Planning the Audit Stage

- Frequency and timing
- Responsibility
- Criteria
- Scope
- Methods
- Duration

# Planning Internal Audits

**Frequency and timing:**

Based on status and importance

**Responsibility:**

Competent auditor with technical knowledge

**Criteria:**

Organization's own procedures, specifications, documents, etc.  
Internal Standards e.g. ISO 9001:2015

**Scope:**

A process  
An area of the company, e.g. distribution

**Duration**

Depends on the size of the scope

# Planning Second Party Audits

## Frequency and timing:

- As determined by the organization

## Responsibility:

- Competent auditor with technical knowledge

## Criteria:

- Contractual obligations
- Organization's quality management system
- ISO 9001 or other agreed standards

## Scope:

- The entire facility
- An area of the company, e.g. a product line

## Duration

- Depends on the size of the scope

# Planning third Party Audits



## Frequency and timing:

As determined by the accreditation



## Responsibility:

Qualified auditor with technical knowledge & experience



## Criteria:

ISO 9001 or other standards



## Scope:

Entire organization  
Management system operations as defined by applicable standard



## Duration

Depends on accreditation requirements

# Audit preparation



Notify person to be audited and agree to a date and time



Review documents: procedures, forms, previous reports, corrective action requests, work instructions, etc.



Prepare/review/update checklists



Brief auditor/team



# Audit Checklist

## The Checklist

- To be used as a working document and as a record
- Tool to audit company processes, not standard
- Should follow the natural process of the organization

## The Purpose of the Checklist

- To provide guidance to the auditor
- To ensure that the audit scope is covered (processes, activities)
- To reinforce the objectives and scope of the audit
- To act as a record

## Risks of the Checklist

- Too focused on a single area
- Insufficient information included to evaluate conformance in interviews
- Not customized to reflect company's practices

# Audit Performance

- Opening meeting
- Conduct the audit
- Review findings
- Closing meeting

# Opening Meeting

- Introduce auditors or audit team
- Discuss audit scope and process
- Explain reporting and follow-up procedures
- Necessary for:
  - a) Good communication
  - b) Co-operation
  - c) Openness

# The Auditor's Approach

The Auditor must:

- Deal with top management
- Understand the key issues in the organization
- Focus on the critical processes
- Audit for business improvement
- Meet the area representative first
- Always talk to those performing the task
- Explain the purpose of the visit
- Be calm, polite, reassuring
- Never talk down
- Never act superior
- Speak clearly and carefully

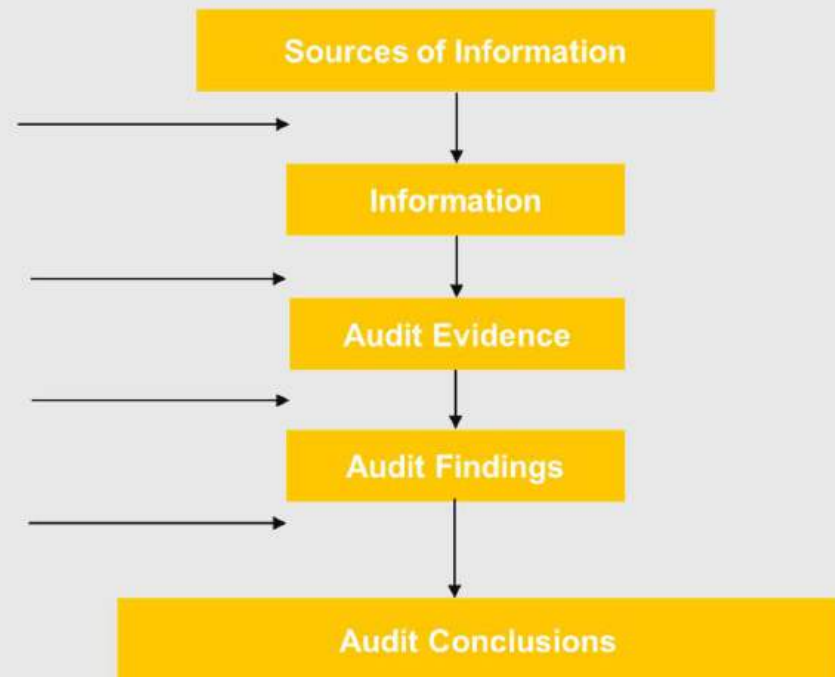
# The Auditor Process

Gathering & selecting  
(by document review, interviewing,  
observing, etc.)

Verification

Comparison with audit criteria

Review





# Obtaining objective (audit) Evidence

May be gathered from:

- Interviews with people
- Observation of activities
- Interactions between functions, activities, processes
- Measurement of processes and programs
- Documents/records
- Data summaries, reports from other sources (e.g. customer feedback)

- People:

- Does anyone understand the systems and documentation?
- Are the employees competent?
- Is there co-operation?
- Are there any system problems?





# Obtaining objective (audit) Evidence (Continued)

- Observation of activities
  - Are the processes efficient? Effective?
  - Are things in logical sequence?
  - Are the interactions between processes defined?
  - What is the significance of links between processes?
  - Can inputs and outputs be identified?
- Measurement of processes and programs
  - Capacity of processes
  - Product measurement
  - Accuracy
  - Dependability
  - Cycle times
  - Resource utilization
  - Productivity





## • Obtaining objective (audit) Evidence (Continued)

### Documents/records

- Issue status?
- Complete and concise?
- Condition?
- Legibility?
- Identity?
- Approval?
- Availability?

### Data summaries

- Customer feedback
- Vendor analysis
- Internal Audits
- Financial measurements
  - Preventive, appraisal and failure cost analysis (Cost of quality)
  - Cost of nonconformity

# Examine objective Evidence

## Examine:

- Documents/data
  - Fully complete
  - Accurate data
  - Check for authorization
  - Review analysis of data
- Physical Evidence
- Environmental Conditions

## Establish:

- Extent of conformity/nonconformity
- Nature for nonconformity
- Sample: According to the amount and variety of evidence

# Use the Checklist

- To record conformity/nonconformity
- To track where you are and manage time
- To control the pace of the audit and manage auditee personalities
- To ensure all areas are covered
- To make notes for follow-up in other areas
- For future reference

# Questioning Techniques

Who?

What?

When?

Where?

Why?

How?

# Controlling the Audit



Insist that people being questioned answer for themselves



Do as little talking as possible



Do not let others dictate the pace



Rephrase misunderstood questions



Give compliments



Say, "Thank you"



Be aware of hidden agendas and emotional blackmail

# Some Basic Issues

- Establish that the company is demonstrating control over the operation
- Involve management in the audit process
- Observe work progression when possible
- Evaluate physical objective evidence
- Examine inputs and outputs
- Make comprehensive notes

# Some Basic Rules

## Seek verification

- Do not assume people will lie, but seek to verify statements if necessary

## Do not accept pre-prepared samples

- Choose your own



# General Principles of Auditing

The following principles relates to all auditors:

- **Integrity** – the foundation of professionalism
- **Fair presentation** – the obligation to report truthfully and accurately
- **Due professional care** – the application of diligence and judgment in auditing
- **Confidentiality** – security of information
- **Independence** – the basis for the impartiality of the audit and objectivity of the audit conclusions
- **Evidence-based approach** – the rational method for reaching reliable and reproducible audit conclusions in a systematic audit process

# Auditor's Personal Attributes

**Ethical** – Fair, truthful, sincere, honest and discreet

**Open-minded** – willing to consider alternative ideas or points of view

**Diplomatic** – tactful in dealing with people

**Observant** – actively observing physical surroundings and activities

**Perceptive** – aware of and able to understand situations

**Versatile** – able to readily adapt to different situations

**Tenacious** – persistent and focused on achieving objectives

**Decisive** – able to reach timely conclusions based on logical reasoning and analysis

**Self-reliant** – able to act and function independently whilst interacting effectively with others

# General knowledge and skills of Management System Auditors

Audit principles, procedures and methods

Management system and reference documents

Organizational context

Applicable legal and contractual requirements and other requirements that apply to the auditee

Discipline and sector-specific knowledge and skills of management system auditors

# Generic Knowledge and Skills of Audit Team Leaders

## Audit team leaders should be able to:

- Balance the strengths and weaknesses of the individual audit team members
- Develop a harmonious working relationship among the audit team members.
- Plan audits and effectively use audit resources
- Manage the uncertainty of achieving audit objectives
- Protect the health and safety of the audit team members including compliance with the requirements
- Organize and direct the audit team members
- Provide direction and guidance to auditors-in-training
- Prevent and resolve conflicts as necessary
- Represent the audit team
- Lead the audit team to reach the audit conclusions
- Prepare and complete the audit report

# Good Practices for Auditors

- Introduce self and/or audit team
- Ensure agenda is understood
- Keep to agenda
- Keep control of the audit and time
- Avoid arguments
- Listen
- Keep records
- Remain polite, calm, professional

# Audit Review

- Conduct a private review when the audit is finished
- Interim or “end of the day” reviews (or both) may be appropriate
- Review and complete checklists
- Study and compare notes (team)
- List nonconformities

# Analyzing Results

Review if:

The deficiency is an isolated error or a breakdown of a system

Auditee is aware of the problem

The deficiency has been reported before



# Closing Meeting



Explain/discuss the findings



Obtain agreement



State overall degree of conformity



Mention the positive points

For Training Purpose Only

Internal audits	Second party audits	Third party audits
<ul style="list-style-type: none"><li>• Informal</li><li>• Constructive</li><li>• System improvement</li></ul>	<ul style="list-style-type: none"><li>• Contracts at stake</li><li>• Reports used as future reference</li><li>• More emotional situation than first party audit meeting</li><li>• Be prepared to be challenged</li></ul>	<ul style="list-style-type: none"><li>• Contracts at stake</li><li>• Reports used as future reference</li><li>• More emotional situation than first party audit meeting</li><li>• Be prepared to be challenged</li></ul>

# Nonconformance Statement

A short statement describing the nonconformity including:

- **What** - The issue in question  
(a statement of nonconformity)
- **Why** - What the statement is raised against?  
(the requirement, or specific reference to the requirement)
- **Objective Evidence** - The objective evidence found  
(the objective evidence observed that supports statement of nonconformity)

# Example of Nonconformance Statement

## **A statement of nonconformity:**

The system for recording the contract review results was not effective.

## **The requirement, or specific reference to the requirement:**

ISO 9001:2015 Clause 8.2.3.2 Review of Requirements for Products and Services “The organization shall retain documented information, as applicable: a) on the results of the review;.....”

## **The objective evidence observed that supports statement of nonconformity:**

No contract review results records were retained for customers' contracts of ABC Company and YYZ Company

# Audit Reporting

The audit report should include:

- Auditors, contracts, scope
- Overall conclusions
- Deficiencies, observations, supporting objective evidence
- Follow-up details

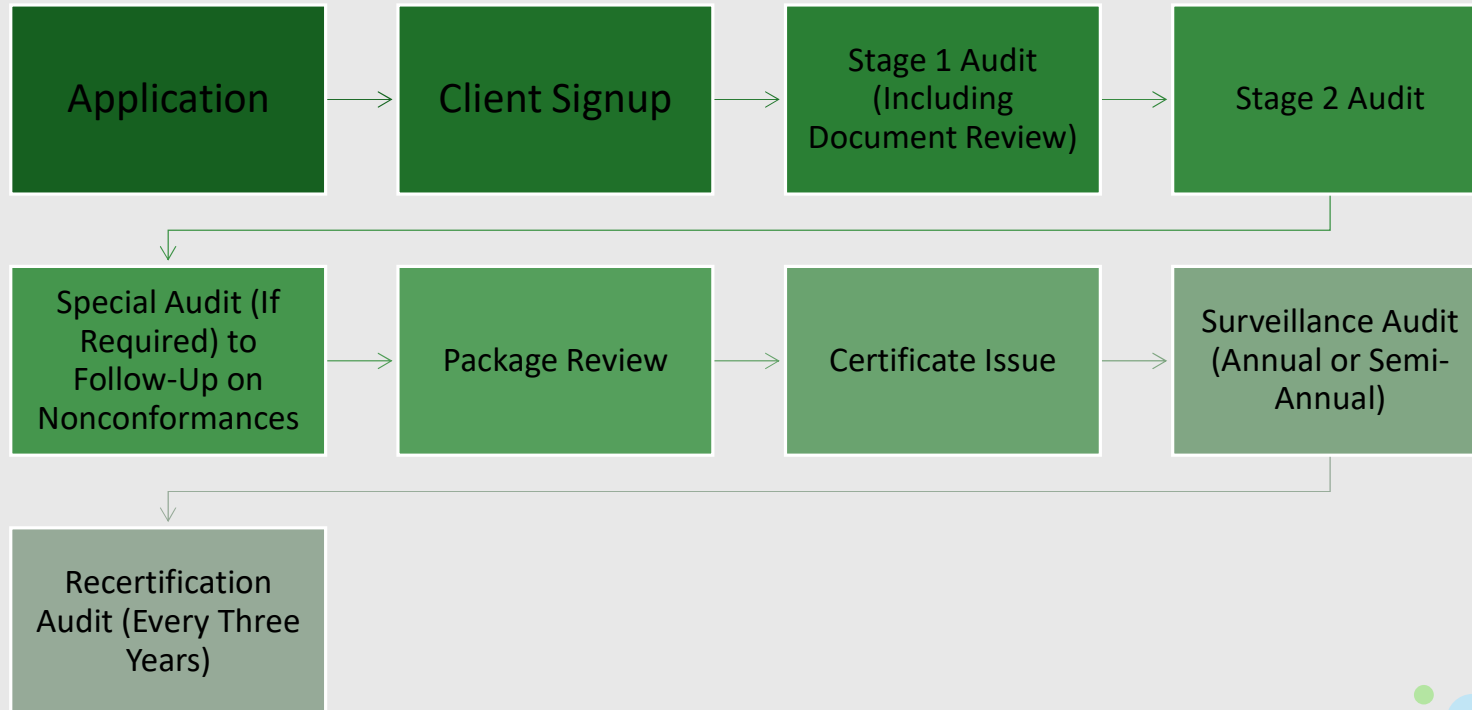
Exclude from Report:

- Confidential information given in interviews
- Matters not raised or discussed at the closing meeting
- Subjective opinions – use only verifiable facts / objective evidence
- Ambiguous statements
- Antagonistic words or phrases

# Audit Follow-Up

- Verify that action(s) are implemented
- Ensure short- and long-term effectiveness
- Record follow-up details & objective evidence reviewed
- Sign off forms

# Registration Process Flow



For Training Purpose Only



Thank you!