



CAPACITY BUILDING SESSION ON OHS AUDITING



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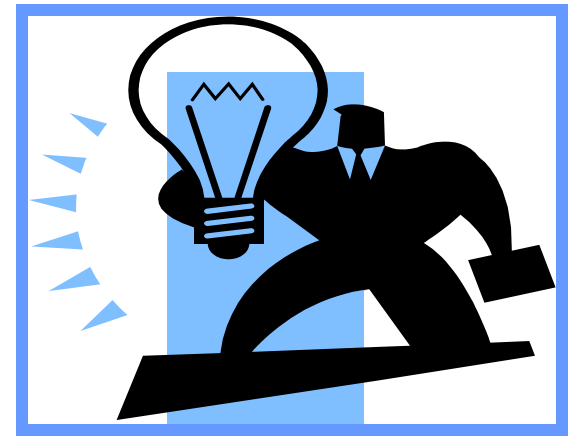
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Objectives

- OHS Audit Program
 - Planning
 - Execution
 - Reporting
 - Close Out





Learning Objectives

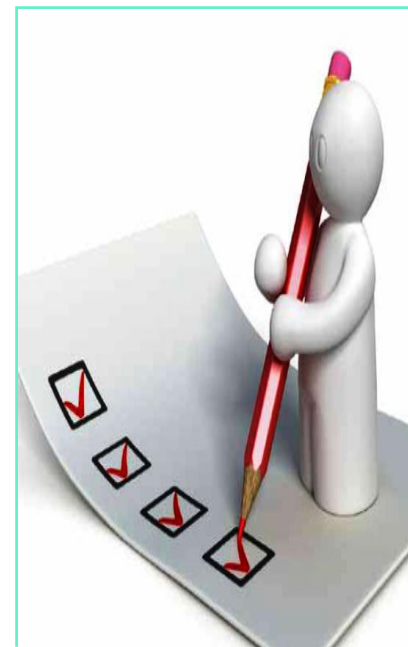


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Session Outline

I	Appreciate Principles of Accident Prevention– Developing Auditors Perspective
II	Standards for Integration in Audit Process
III	Overview of Audit Program & Process AND Auditing Techniques & Skills Improvement
IV	Case Examples & Conclusion





Session I

Appreciate Principles of Accident Prevention– Developing Auditors Perspective



Micro Lessons

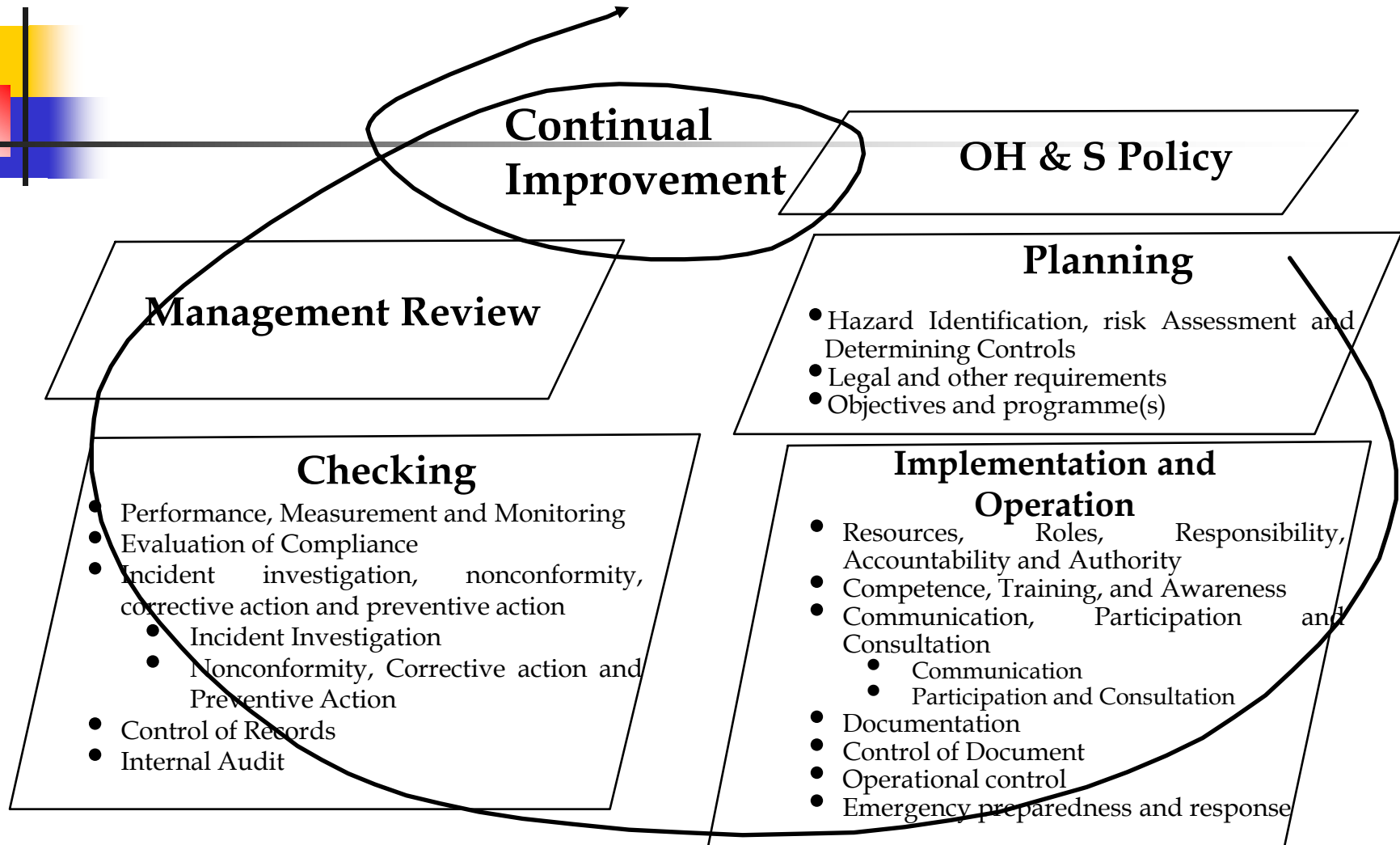
- Inadequate hazard identification or risk assessment
- Poor management of plant ,instrumentation and pipe network
- Poor management of change
- Poor alarm management
- Poor corrosion management /incorrect assumptions in corrosion allowances
- Insufficient attention to PSM
- Emergency response necessary
- Gaps in safety management systems coverage
- Failure to act on past accidents



Macro Lessons

- The Baker and CSB reports into the Texas City event implied that **improvements in SMS and culture** alone might be sufficient means to manage major accident risks.
- Our experience suggests that a more **integrated approach to HSE** and asset Management is needed in order to achieve the necessary process safety improvements.
- **Management systems that are designed primarily for occupational safety issues rarely perform well in managing major accident hazard potential.**
- A **detailed risk-based process safety management program** is a necessary foundation to prevent major accidents
- **New initiatives** to define critical barriers, establish performance should be planned carefully.
standards, and manage these throughout the plant lifetime, are required
- **Greater use of leading indicators** rather than lagging indicators of major accident potential needs to be made (OECD, HSE, Step Change).

Management System Model





Why Audit : What Value it offers ?

Understand

- What parts of the Safety -MS need attention:
- What barriers were missing or failed ?
- What parts of the system are creating particular challenges ?
- Share information on new hazards or to better understand risk levels ?
- Identify relevant Key Performance Indicators ?
- What measures need to be taken to prevent system failure/ incidents ?



Benefits of safety audits

- If rightly used provides “Assurance ”
than compliance management
- Promote operating discipline
- Test for compliance with standards
- Establish standards
- Identify weaknesses
- Accumulate data
- Identifies precursor to accidents/
Prevent injuries
- **Tool for Accountability**



Safety Performance - Region

	2013	2012	2011	2010	2009
Africa	4.53	2.83	1.25	3.38	2.21
Asia/Australasia	0.87	1.35	3.28	4.14	1.58
Europe	2.26	0.52	0.87	0.97	6.58
FSU	1.25	0.55	1.59	2.17	3.14
Middle East	0.63	1.95	1.74	1.63	2.16
North America	2.03	7.50	1.50	5.08	4.37
South & Central America	4.37	0.54	2.42	1.57	2.37
Overall	2.12	2.38	1.88	2.76	2.76



Session II

Standards for Integration in Audit Process



Audit - Standards

ISO 19011:2011 – Guidelines on Auditing Management Systems
IS 14489 : Code of Practice on Occupational Health & Safety Audit
OISD 145 :Guidelines on Internal Safety Audits (Procedures and Checklist)
MSIHC Rules, 1989/2000 : Independent Safety Audit Report
OISD Guidelines & Standards

Legislation:

The Factory Act/Rules
The CEA (Measures relating to Safety and Electric Safety) Rules,2010
Factory Act, 1948 & Rules
The Petroleum Rules, 1976/2005
SMPV Rules, 1981
The Gas Cylinder Rules,2004



Key Definitions

Process Safety Event (PSE)

An unplanned or uncontrolled LOPC of any material including non-toxic and non-flammable materials (e.g. steam, hot condensate, nitrogen, compressed CO₂ or compressed air) from a process, or an undesired event or condition that under slightly different circumstances, could have resulted in LOPC.

Secondary Containment

Primary containers may be designed with secondary containment systems to contain and control the release. Secondary containment systems include, but are not limited to, tank dykes, curbing around process equipment, drainage collection systems into segregated oily drain systems, the outer wall of double walled tanks etc.



Audit Focus ?

Occupational Safety

Frequent

Personal

Known

Relatable

Behavioral

Measurable

Inputs linked to outputs

Quick feedback

Incidents Major Incidents

Infrequent

Remote

Unthinkable

Technical

Systematic

Difficult to measure

Complex link between
input and output

loop Long timescales



Session III

Overview of Audit Program & Process & Skill Improvement AND Auditing Techniques & Skills Improvement



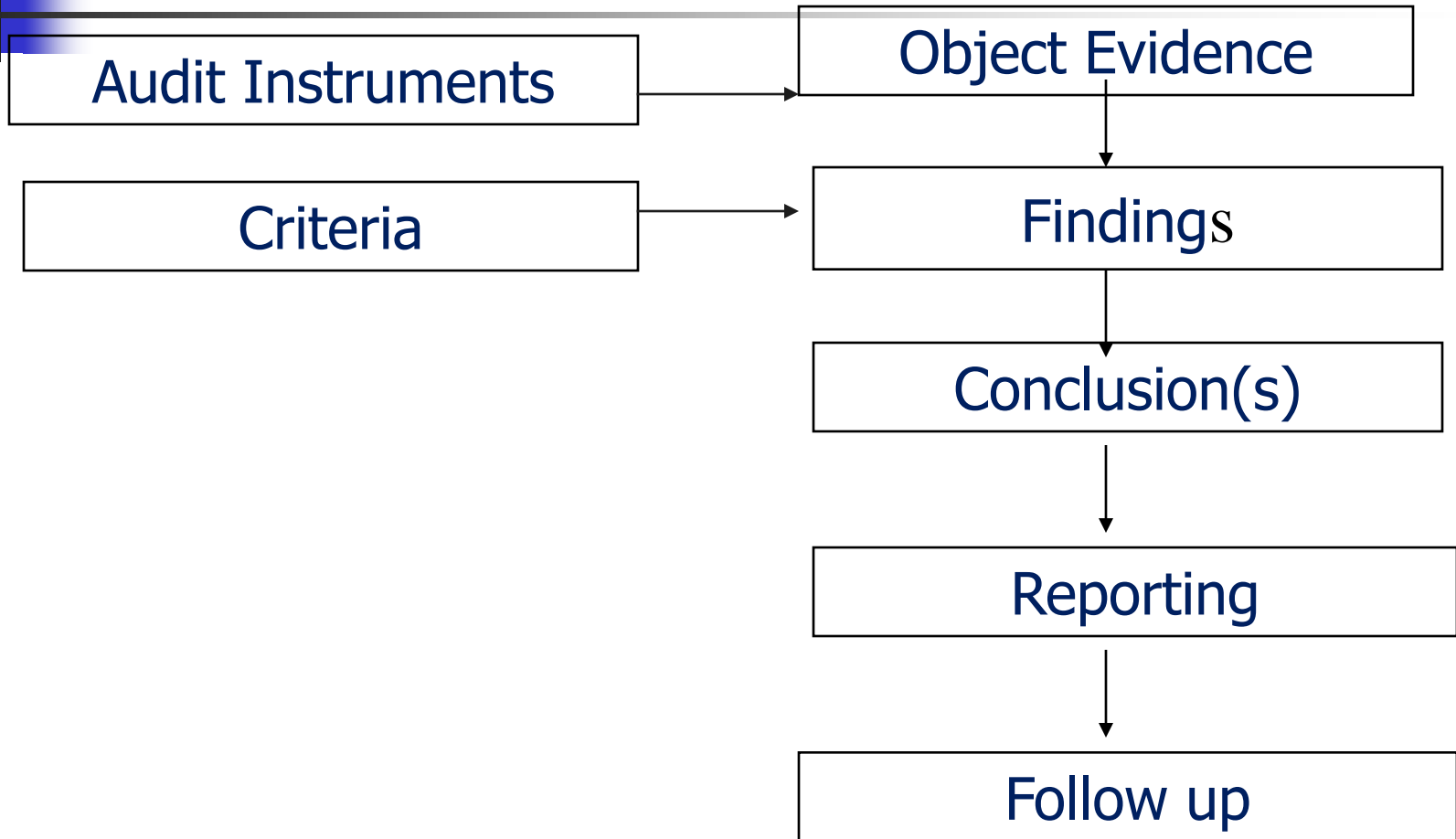
Audit - Definition

An audit is defined as the **independent, systematic** and **documented process** of **objectively** obtaining and evaluating **verifiable evidence** to determine that business controls:

- are complete and consistent
- are effective and efficient
- safeguard the company's resources and promote their effective use
- provide, and protect the integrity of, required records and information
- allow for compliance with policies, chosen standards, laws and regulations

Audits are an integral component of any assurance process, be it HSE, financial or any other business context

Concept of Audit





Establishing Robust Audit Programme

- Tier 1 : Management Systems Audit
- Tier 2 : Special Audits
- Tier 3 : Contractors Audit
- Accreditation Audits / Professional Audits

Internal & External (II nd or Third Party)

Group Audit Manager to develop Audit Program & Approved by Group Safety Committee

- Types
- Who shall conduct ?
- Select Reference Criteria
- Month



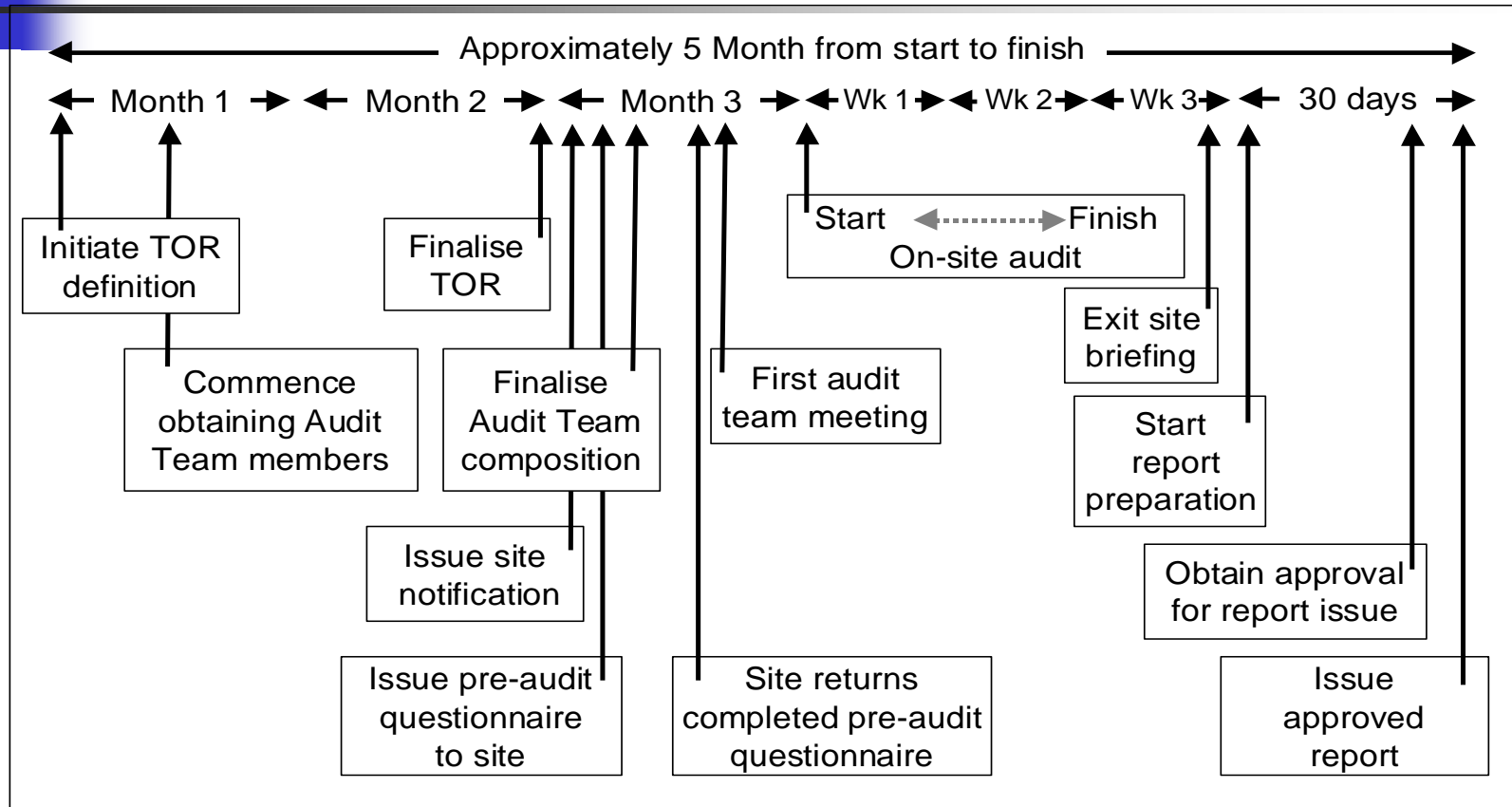
Establishing Audit Programme Structure & Responsibilities

- Group Safety Committee
- Group Safety Audit Manager
- Audit Leader
- Auditors
- Principal Audittee, Site Managers & Safety staff

Auditor training provisions

- Before Induction
- Twice in a year

Preparing for Audit Plan



Audit Team Leader to prepare TOR & get agreement of Audit Manager & Principle Audittee



Audit - Process

Step 1 : Planning

Step 2 : Execution

Step 3: Report

Step 4 : Close Out



Audit - Step 1 : Planning

Objective

Scope

Duration

Criteria

Team Composition

Audit Checklist

Audit Preparation / Checklist

Audit Plan

Output : Audit Schedule – Audit Leader



Audit – Objective

Principle Objective:

Operations are conducted and systems are operated in accordance with applicable standards and appropriate procedures.

Risks are adequately identified and managed at ALARP levels.

Supplementary audit objectives

may be defined as appropriate to the specific needs of the individual Site



Audit –Scope

Scope : The scope includes the management of all operations and maintenance activities at the select site.

(Sampling Basis)

1. verification that structured risk assessment has been applied to the key HSE risk issues of the facility or activity,
2. sampling if these risks have been appropriately assessed and the correct controls have been identified, and
3. sampling if these controls are adequately implemented and complied with.

Ground Rule : Sampling Depth is more important than too wide focus



OISD- Scope of Safety Audit

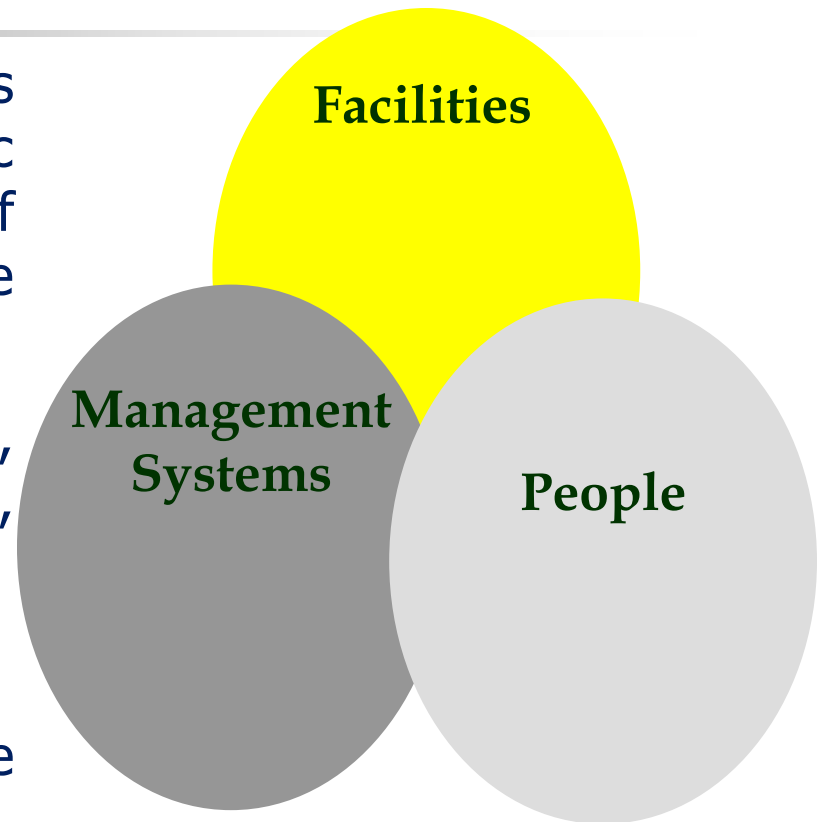
A Safety Audit subjects various areas of a company's activities to a systematic critical examination with the objective of minimizing loss. This includes all the components of the system viz.

management policy, attitudes, training, design (Process, Mechanical, Electrical, etc.) aspect,

layout and construction of the plant,

operating Inspection & Maintenance procedures,

emergency plans, personal protection standards, accident records





Audit – Duration

Depends upon Audit scope, the size of the site or operation and the complexity and magnitude of the safety requirements.

No Specific Rules / Guidance on Duration

Audit Leader & Principal Audittee to decide



Audit - Step 1 : Determining Audit Frequency

Refineries – Once in a year

Marketing Locations – Once in a year

LPG Bottling Plants- Once in a year

Design / Process Safety – Once in 3 Years OR after major modification



Audit – Determining Criteria

Technical Standards (National / International)
Management System Standards
Applicable Legislation
Corporate Standards/ Guidelines

Audit Preparation- Team Members

- Layouts
- P & IDs
- Operating Manuals
- Maintenance & Inspection Manuals
- Fire and Safety Manuals
- Checklist





Audit - Process

Step 2 : Execution



Audit Execution

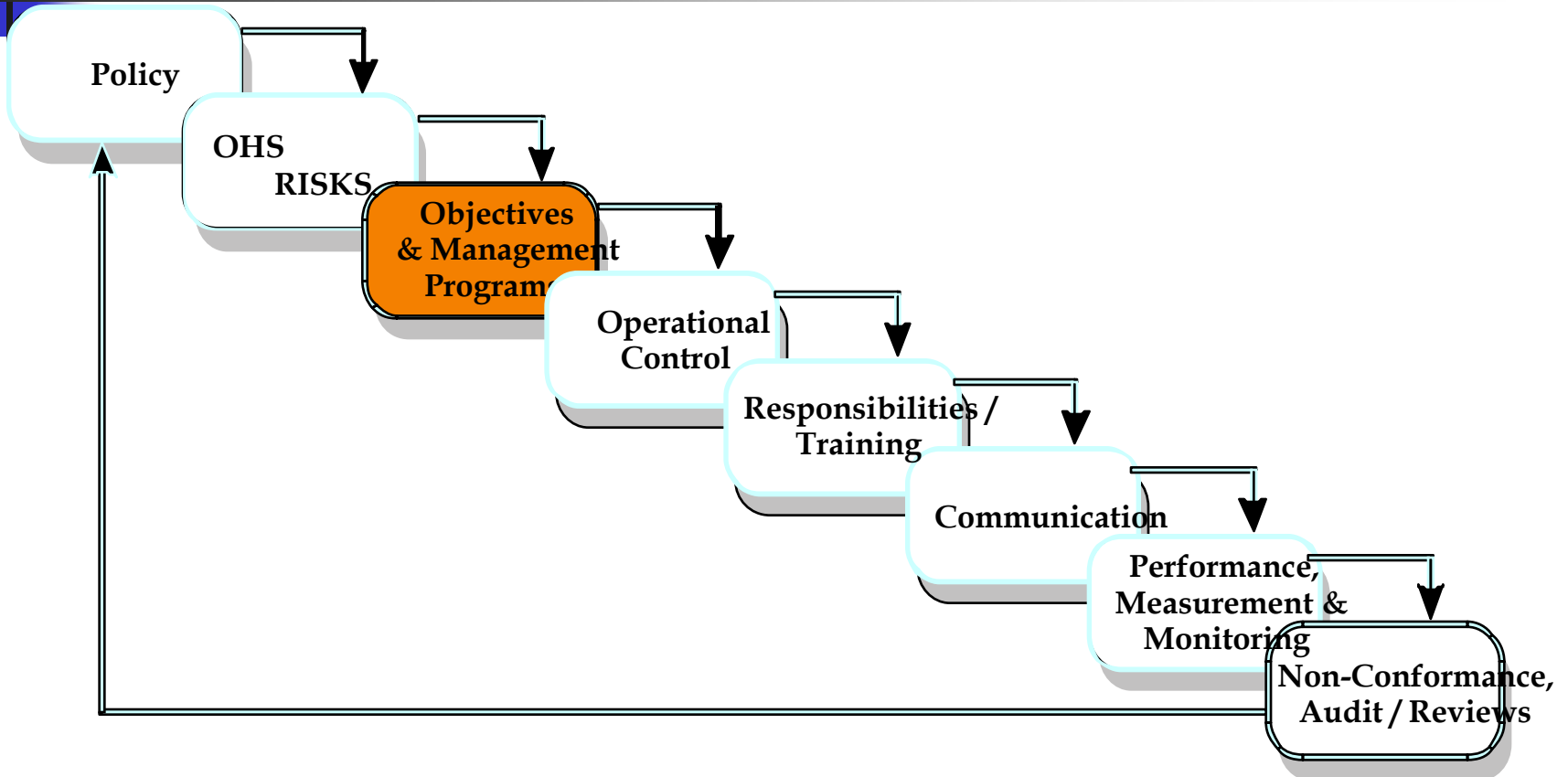
- **Opening Meeting) / Explain Intent**
- **Audittee to present a minimum**
 - A. Up to Date- Process Flow / lay out Diagram
 - B. existing safety processes &
 - C. exiting performance indicators
- **Site walk through & Observations**
- **Conducting Interview**
- **Develop Audit Findings & Conclusions**
- **Provide Feedback to audittee**
- **Exit Meeting**



What audit trail you shall be following ?

- Leadership
- Accountability, Roles & Responsibilities
- Safety Culture
- Adherence to Policies, Procedures & Regulations
- Technical Competency
- Understanding Process Safety
- Understanding and Responding to Risk
- Maintaining a Sense of Vulnerability
- Management of Change
- Response to Anomalies and Emergencies
- Planning and Timely Provision of Resources
- Selection and Oversight of Contractors
- Thirst for Organizational Learning
- Use of Performance Indicators/Metrics

Conducting Interview – Follow Audit Trail





Audit Techniques

- The Audit Methodology includes the use of following audit instruments for identifying objective evidence for conformance/ non-conformance:
 - Site Assessment
 - Documentation Review
 - Progressive Interaction/ Interview
 - Measurement and Monitoring



Audit - Process

Step 4 : Report



Verification of Facts / Report :

Two important rules are to be applied rigorously:

Rule 1. Every audit finding, irrespective of whether positive or negative needs to be verified thoroughly.

Rule 2. If in doubt leave it out.

A single unverified issue, reported formally but subsequently found non-factual, will affect the whole audit. It distracts the attention of the Audittee from the remainder of factual and verified findings.

Balanced reporting

Auditors should be able to substantiate their findings/ scores with physical evidence e.g. that systems, procedures and resources are in place or alternatively, of deficiencies, gaps and deviations from standards

Draft & Final



Audit Report (Non-conformance Forms)

- Non-conformity report must include all the three essential parts

REQUIREMENT-FAILURE-OBJECT EVIDENCE

Use clear and concise language.

Preferably not longer than three lines

Findings should be stand-alone, text should be definitive when read in isolation of other findings or audit documentation

Use numbering system to identify SMS Element, Sub-element, Expectation and Risk level.



Audit Report Content – Team Leader

- Confidentiality
- Audit Objectives
- Date of Audit and Audit Plan
- Audit Team
- Audit Criteria
- Methodology
- Principal positive findings
- **Audit Findings**
- **Audit Conclusions**

With reference to the Audit Risk Potential Matrix, **Audit Findings will be limited to the 'Unacceptable' and 'High' categories.** 'Medium' and 'Low' risk priority issues will be reported separately in an appendix.

Audit Summary Sheet

SMS AUDIT SUMMARY SCORE SHEET

Avg. Element
Compliance
Score

Sub-element
Compliance
Scores

Number of
Risk Classified
Findings

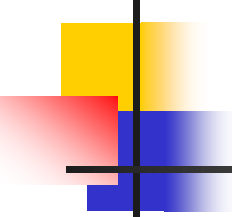
1.	Leadership & Commitment	<input type="text"/>		H	H/M	M	L
1.1	Visibility		<input type="text"/>				
1.2	Proactive in target setting		<input type="text"/>				
1.3	Informed involvement		<input type="text"/>				
2.	Policy & Strategic Objectives	<input type="text"/>					
2.1	Content		<input type="text"/>				
2.2	Strategic Objectives		<input type="text"/>				
2.3	Dissemination		<input type="text"/>				
4.	Risk Evaluation & Management	<input type="text"/>					
4.1	Identification		<input type="text"/>				
4.2	Evaluation & Assessment		<input type="text"/>				
4.3	Controls, Ownership & Performance in maintaining controls		<input type="text"/>				
4.4	Recovery		<input type="text"/>				
4.5	Recording & HSE Case		<input type="text"/>				



Session

Conclusion

PRINCIPLES OF AUDITING



Ethical Conduct (This is the foundation of Professionalism)	It includes trust, integrity, confidentiality and discretion.
Fair Presentation (The obligation to report truthfully and accurately)	Audit findings, audit conclusions and audit reports reflect truthfully and accurately the audit activities. Significant obstacles encountered during the audit and unresolved diverging opinions between the audit team and the auditee are reported.
Due Professional Care The application of diligence and judgment in auditing	Auditors exercise care in accordance with the importance of the task they perform and the confidence placed in them by audit clients and other interested parties. Having the necessary competence is an important factor.
Independence	Auditors are independent of the activity being audited and are free from bias and conflict of interests.
Evidenced based approach	Reliable and reproducible conclusions/ Audit evidence is verifiable



Thanks