

Quality & Environmental Auditing

Panel Discussion

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Objectives

- ☛ Planning options regarding:
 - Audit Objective
 - Audit Scope
 - Audit Data Collection

Audit Objective

- ☛ Compliance-based
- ☛ Effectiveness-based




Compliance-based

To determine whether or not the requirements are being met

Effectiveness-based

To determine whether or not requirements have value and are being met with safety, reliability / consistency and efficiency





Compliance-based

and

Effectiveness-based

are terms applicable
only to the

audit **objective**



Audit Scope

- Risk-based
- Non risk-based




Risk-based

The scope addresses activities commensurate with their risk

Non-risk-based

The scope addresses activities regardless of risk considerations



Risk

Level of Adverse Effect of Occurrence

X

Probability of Re-occurrence

with

Consideration for Possible
Mitigation of the Effect

High Level Risks

- ☞ Fatality
- ☞ Hospitalization
- ☞ Noncompliance with law
- ☞ Reportability to outside entity
- ☞ Discomfort with stakeholder
- ☞ Loss of a pre-stipulated mission
- ☞ Loss of \$ above a pre-stipulated amount

Risk Identification Methods

- Probabilistic Risk (Safety) Analysis
- Operating experience
- Expert panels
- Identification of the success factors




Risk-based

and

Non-risk-based

are terms applicable
only to the
audit **scope.**



Audit Data Collection

WHAT Data to Collect

- ☛ Determine the success factors for the process
- ☛ Determine the standards for the success factors
- ☛ Determine the process steps that affect the success factors

Plan to collect data about these process steps

Audit Data Collection

- Program-based / System-based
- Performance-based
- Results-based

Program-based / System-based

☞ Evaluate:

- Policies
- Administrative Procedures
- Technical Procedures
- Project Plans

Given a significant inadequacy of a documented policy, procedure or plan, the value of auditing its implementation is questionable

Program-based / System-based

(Cont'd)

- This data collection method / source **must be used** to meet either the **compliance-based** or **effectiveness-based** objective.
-
- For either objective, this can **NOT** be the only data collection method / source used to demonstrate compliance or effectiveness.

Performance-based

- Real time, direct observation of procedure implementation

OR

- Analysis of absolute values and trends of performance indicators
(PIs speak for themselves)

Performance-based (Cont'd)

- Real-time, direct observation requires more resources than records assessment.
- Real-time, direct observation provides more insight.

Results-based

- ☛ Analysis of absolute values and trends of performance indicators (PIs)
(PIs speak for themselves)

OR

- ☛ Selection of an unacceptable event(s) and assessment of the action taken to:
 - Identify causal factors
 - Correct root and contributing causes